

ARABIAN AEROSPACE

THE MAGAZINE FOR AEROSPACE PROFESSIONALS IN THE MIDDLE EAST AND NORTH AFRICA

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AIRBUS

welcome



There are many that question the wisdom of launching a new magazine and an aerospace online news service in the depth of the worst global economic downturn that the world has shared.

But why not?

The Middle East and North Africa has shown before that it has the courage of its convictions, a will to progress and a capability to invest. So if now is the time that the aerospace industry is ready for a quantum leap in the region, then now is the time for us to invest too.

This first issue of *Arabian Aerospace* is brought to you by a dedicated team of specialists who understand and appreciate the challenges of the aerospace industry. Many have had more than 20 years following the programmes and the innovations that are coming to fruition now. Some of our team have also had years of experience living and working in the Gulf and so we hope we can give you information and opinions that recognise the particular demands of the region and also speak up for the region to the industry as a whole.

Despite those years of experience, we are still learning and look to you – our readers and supporters – to help us shape the way this publication works. Our goal is to cover the issues that affect the whole of aviation, defence and

aerospace in the Middle East and North Africa, while at the same time bring news of developments from the rest of the industry that may impact on operations in years to come.

These are interesting times.

In Air Transport we are seeing different strategies from different airlines. In some areas we see capacity cuts, in others, we mostly see expansion and capacity increases.

The Arab world is continuing to grow despite the recession and our airlines are ordering and receiving new aircraft to modernise the fleets. At the same time we are leading the world with levels of cabin comfort and investment in cabin technologies such as in-flight use of mobiles, internet and entertainment.

On the military side the governments in the region are investing in new aircraft for training and humanitarian missions – once again taking a leading initiative.

In business aviation, there is an increase in the number of FBOs, and maintenance operations in the region – and the demand for large jets has not gone away.

In all, the Middle East has a story to tell.

And we at Arabian Aerospace are looking forward to helping you tell it.

ALAN PEAFORD
EDITOR

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FOCUS ON
ABUDHABI

14 - PAGE SPECIAL

Abu Dhabi is rapidly becoming a player on the world stage of aerospace. While its glitzy neighbour down the road, Dubai, has been picking up the headlines the larger emirate – and the capital of the United Arab Emirates – has been steadily making its play for a greater role in the industry.

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All in a day

What's it like to work in a high-pressure FBO at Dubai International?

Abu Dhabi Aviation distributes Aeromot

Abu Dhabi Aviation has announced that it is to become the exclusive distributor for Brazilian GA manufacturer Aeromot's aircraft in the Middle East.

Abu Dhabi Aviation will market the motorised gliders in the Middle East and the Far East with the exception of China and Japan.

The company revealed that a UAE governmental agency is already in the advanced negotiation stages for the purchase of two Aeromots.

It expects to take delivery of its AMT 200S – Super Ximango 'S' demonstrator later this year.

Al Tariq Al Ameri, Abu Dhabi Aviation's Powered Glider project manager says: "The aircraft appeals to a broad segment of the aviation market. The Aeromot series of aircraft are certified by civil aviation authorities around the world and many of these gliders are in use by both recreational and governmental agencies. The UAE's General Civil Aviation Authority allows civil certification for private use."

Beirut gets new Biz Av hangar

Executive Aircraft Services (EAS) has opened its new 42x42 metres hangar at Beirut International Airport.

EAS communication manager Eli Ghossein says, "the hangar is spacious enough to accommodate a Global Express and adds to our already existing fully outfitted and modern ground support equipment."

The Beirut operator is also continuing to expand its charter services and has just acquired a Hawker 800XP2.

The company also offers an aircraft management service to increase charter options for owners with a fleet including a Dassault Falcon 900B, Global XRS, Hawker 700, Hawker 800XP, a Lockheed JetStar, and a Beechcraft Premier 1.



How Design Q sees Prince Al Waleed's A380.

Palace that is fit for a prince

Case4de and Design Q have teamed up to produce the interior for Prince Alwaleed bin Talal bin Abdulaziz Al-Saud's A380 'Flying Palace'.

Gary Doy, director at Design Q says the task is significant. "The A380 offers an incredible canvas on which to create an exceptional VIP aircraft. We believe it is our role to create designs that not only fulfil the customers' expectations but also raise the bar, truly taking their breath away. This aircraft is all about the ultimate luxury travel experience and exudes confidence and commitment on the part of the owner."

Noureddine Madoui, managing director North Africa & Middle East, Case4de, emphasises the complexity of the project. "There are many technical and certification challenges, however we are confident given the experience we have of this aircraft that the concept we have developed with Design Q is feasible from an engineering perspective and can be delivered."

The Flying Palace will truly live up to its

name. A grand entrance hall with a floating spiral staircase joining three floors in the front section of the aircraft leads to a large boardroom and private lounge. The boardroom can either be open to the main entrance hall creating the feeling of a vast room or closed for private meetings. The boardroom is crammed with "class-leading technology" allowing the owner access to multimedia feeds from around the world without leaving his seat at the head of the table. Clever mood-lighting and display technology is used to immerse the guests in an array of ambient environments providing a unique "journey within a journey".

A separate entrance, fit for a king, has been devised in the forward area of the aircraft. A private lift allows the principal to enter the aircraft from the ground providing both a sense of occasion and an effortless travel experience. Once in the aircraft the lift is used to travel between floors forming part of the principals own private area and an entrance to the more public grand hall.

DAE delivers first SkyCargo 777F

DAE Capital, the aircraft leasing division of Dubai Aerospace Enterprise, has delivered its first Boeing 777 Freighter aircraft to Emirates' SkyCargo freight arm.

"Today marks a milestone in our relationship with two key customers based in Dubai," said Marty Bentrout, Boeing's vice president of Sales for the Middle East and Africa. "The unmatched efficiency and reliability of the 777 passenger models have made it the premier twin-aisle choice for our Middle East customers — so too, will the 777 Freighter enhance air freight delivery to and from the region at the best margins achievable."

Empire Aviation achieves 100% growth

Empire Aviation has said it achieved 100% year-on-year growth defying the current downturn in a booming business aviation market.

"The 100% year-on-year growth of our company reflects the potential offered by the business air charter industry in this part of the world," said executive director Steve Hartley.

The Dubai-based company does however admit to seeing some effects of the economic difficulties. Hartley said: "We have seen a reduction in jet chartering from the start of the year, which seems to be an expected reaction due to the worldwide financial climate."

However, he said that the company's aircraft sales arm is witnessing an extremely positive start to the year, having just completed a deal on behalf of a private buyer for a pre-owned Gulfstream G550.



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Elite Jets receives second new G450

Dubai-based Elite Jets has taken delivery of a second brand new Gulfstream G450 large cabin business jet.

The aircraft started commercial operations for Elite Jets in early April.

"I am extremely pleased with our two Gulfstream aircraft. In August 2008 Elite Jets had received its first G450 and our clients truly enjoy with great pleasure their travel experience on board the G450," says Ammar Balkar, president and chief executive of Elite Jets.

"Elite Jets is committed to meet the growing demand for sophisticated regional and international air charter service. The dynamic and global focus of today's business executives demands a level of scheduling flexibility that is ideally suited to the utilisation of business aircraft," he explained.

Casablanca hub for Air Arabia

Air Arabia will invest \$50 million in its second hub in Casablanca, Morocco, the airline's chief executive says.

The hub will serve the European and North African market and will have 20 to 25 aircraft and target at least 60 airports within a five-hour radius, says Adel Ali, chief executive of Air Arabia.

"I think we will be going to Italy, France, the UK, Germany, Netherlands, Spain and North Africa," he says.

The airline will begin flying to Goa in India and Athens in Greece on April 16 and 21, respectively. Ali says that a hub in Nepal was considered earlier, but because of political instability the venture has been suspended.

Additionally, he says the



Emirates gives Airbus list of A380 problems

Dubai-based airline Emirates has reportedly delivered a 46-page list of problems it is having with the A380 superjumbo.

A report in Germany's *Der Spiegel* said Emirates was having technical problems with the aircraft. Emirates has had a problem with heat-damage to power cables and defective engines, although this is an Engine Alliance issue an industry source said.

The airline said it recently met with Airbus executives "to give them feedback on the A380's reliability performance, including

various technical issues which we had identified during our operations".

Currently the carrier operates four A380s and is said to be seeking to reschedule delivery of the aircraft it has on order.

The airline said that concerns about the A380 and the delivery review are "not linked" and that financial problems were not on the horizon. A company representative told Reuters that its "financial fundamentals are solid" and that it has "financial commitments in place for all our aircraft deliveries until summer 2010".

airport infrastructure did not improve. "It was a very interesting opportunity. The right decision, but at the wrong time," he adds.

"We have aircraft delivered and [are] ready to operate from Morocco," he says.

Cargo upturn due in Q4: Emirates

Emirates expects a recovery in cargo volumes by the last quarter of 2009.

Despite the decline, the airline is expected to announce a year-on-year growth in freight volume.

Ram Menen, senior vice president of the cargo arm says the cargo business has run into rough weather after three years of robust growth.

"The dramatic fall in volumes was in November and December," he says.

Adding that it happened around the same time as the global automotive industry got into difficulty.

Menen says the outlook for cargo business remains poor amid a falling demand in Europe and the US for Asian consumer goods and the decline in automotive production.

"There will be stability in the next four to five months and some semblance of growth in the last quarter of 2009," he says.

International freight volumes were 22.1% below their 2008 levels for February, says IATA.

Menen says yields have come under pressure due to the economic downturn. The US and China routes have suffered the most, while the Middle East and Africa are doing well and the Indian sector is stable, he says.

Overall, the airline has registered growth in 2008-09 on the 1.5 million tonnes of cargo it carried in 2007-08, Menen says, without giving details.

Despite weak demand, Menen insists Emirates will continue to add cargo capacity.

With its new 777F, the number of cargo planes in the Emirates fleet has increased to eight. Emirates SkyCargo has another eight freighters on order, with options on a further nine.

Etihad aims for growth in 2009

Etihad Airways has said it aims to increase passenger numbers by 15% to seven million in 2009 and is targeting a 20% revenue increase to \$3 billion.

James Hogan, Etihad

Airways' chief executive, says: "The aviation industry is facing its toughest challenge for many years as a result of the current global economic crisis, but Etihad Airways will seek to continue its expansion plans during 2009 in a measured, considered and controlled manner.

"The new aircraft arrivals will boost our fleet by a quarter and allow us to launch flights to five new destinations as well as build depth and frequency into our existing network.

"We have an excellent award-winning product in all three aircraft cabins, and will target an average seat factor of 77%, to help us achieve our ambitious plans to fly seven million passengers during the year.

"Although we will watch our costs very carefully we will not cut back on customer service nor will we compromise whatsoever on safety, the absolute bedrock of our business."

Jazeera profits up 94%

Dubai and Kuwait-based no-frills airline Jazeera Airways has posted a net profit increase of 94.4% in 2008, despite last year's crippling fuel prices.

Net profits for 2008 totalled KD4.5 million and revenues increased over 40%.

"Jazeera Airways continues to surprise the market with year on year revenue and profit growth. This despite the challenges in 2008 from high fuel prices," says Marwan Boodai the airline's chairman.

"The strategic initiative to deleverage the business in 2008, with the sale and leaseback of some assets has strengthened our balance sheet at exactly the right time, considering the current credit crisis," Boodai says.

Flydubai to launch from Dubai

Startup no frills carrier flydubai will start services from Dubai International Airport's revamped terminal 2 when it starts operations this year.

Scheduled to start flying in the middle of 2009 the carrier had initially anticipated operating from Al Maktoum International airport in Jebel Ali but will start from Dubai due to the deferred opening date of Al Maktoum.

Flydubai has 54 Boeing 737-800s on order that will offer 189 economy seats.

JorAMCo wins Kuwait's contract

Jordanian MRO supplier, JorAMCo, has successfully won the contract for heavy maintenance services for Kuwait Airways' long-haul aircraft. Under the agreement announced in March, JorAMCo – which has facilities at Amman – will provide heavy maintenance to five Airbus A300-600s and three A310s. This work includes C-checks, cabin refurbishment and aircraft painting.

JorAMCo says the agreement is "valid for a number of years" and lays out possible expansion of services to Kuwait Airways' fleet as it develops.

MEA expands its Airbus fleet

The chairman of MiddleEast Airlines (MEA) Mohammad Houthas says the airline will receive five Airbus A330s in May following the Airbus A320 it received in April. Hout made the comments after meeting with the president of Airbus Tom Enders.

"MEA has overcome many difficulties and even managed to record profits at a time when many international airlines were facing financial difficulties,"



Qatar Airways was voted best Middle East Airline.

Middle East dominates World Airline Awards

The Middle East has once again shown that it is leading the pack when it comes to offering a great product to travelling customers.

At the World Airline Awards held at the Aircraft Interiors Show in Hamburg, Germany, in early April, Emirates picked up the award for Best Inflight Entertainment.

While the award for Best Business Class went to Etihad Airways and Best Economy Class was presented to Qatar Airways.

Qatar Airways also received the Best Airline – Middle East award and Turkish carrier Turkish Airlines was announced as Best Airline – Southern Europe.

In the catering section Etihad Airways delivered the most satisfying food and drinks

to snatch up the Best Business Class Onboard Catering.

In the low-cost segment, survey takers voted Air Arabia as the Best Low Cost Airline – Middle East.

Chief executive of Skytrax the company responsible for the World Airline Awards Edward Plaisted says: "In demanding times the passengers become more demanding. They are looking for more value and their expectations go up. Airlines need to make sure that they are keeping the lower number of passengers happy and that they all feel like valued customers. There is a great focus to satisfy those remaining customer numbers.

"Customer experience and loyalty is key now," he says.

says Enders.

Hout adds: "When MEA receives all the orders, more flight destinations will be added to the current ones." MEA recorded net profits of \$60million in 2007 and is expected to make \$70million in net earnings in 2008.

Oman Air set for Europe

The Arab Air Carriers Association has announced that Oman Air is to launch four new long haul

destinations during 2009.

The airline will commence flights to Frankfurt on September 17 initially with six services per week and inaugurate services to Paris on October 11 with four flights per week. Sri Lanka and the Maldives will commence on October 12 with four weekly services offering convenient connections to not only Paris and Frankfurt but also to the airline's daily London Heathrow flights. This year Oman Air will

take delivery of two Airbus A330-200 aircraft in a two-class Business and Economy layout, and two Airbus A330-300 aircraft featuring First, Business and Economy classes.

Gulf Air awards fleet deal to SIA

Gulf Air has signed a long-term fleet management deal with Singapore Airline's subsidiary SIA Engineering (SIAEC).

The three-year contract calls for SIAEC to work with Gulf Air to insource the MRO services provided by SIAEC with the Singapore company providing training to local Gulf Air engineering staff with a long-term goal of strengthening in-house technical/engineering capability.

The Singapore business already provides the heavy maintenance for Gulf Air.

AMRAAMS for Desert Falcons

The UAE Air Force is buying 224 AMRAAMs for its Lockheed Martin F-16 Block 60 fighter aircraft.

Following the acceptance of a letter of offer Raytheon will supply AIM-120 C-7 missiles to the UAE, an advanced variant of the fire and forget active radar homing air-to-air missile.

"The deal is sizeable and deliveries will start mid to late 2011," says P.T. Mikolashek, president of Raytheon Middle East & North Africa, declining to state the value. "There are other countries in the region that are looking at upgrades of their missile programmes."

Dubai Airport sees through the gloom

Dubai International Airport achieved a Middle East first in April when it announced that airlines can now operate in very low visibility conditions following the approval of its upgraded category of landing system - CATIIB, by the General Civil Aviation Authority (GCAA) and Dubai Civil Aviation Authority (DCAA).

The new system at Dubai International allows aircraft operations in visibility conditions below 200 metres down to 50 metres, a first for any airport in the Middle East.



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The Kingdom of Bahrain is the perfect location to base the headquarters of your Middle East operations.

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THE WAR OF INDEPENDENTS

Emirates leads the way in the battle to stop airline alliances stifling the competition.

Ian Sheppard *investigates.*

Airline alliances hinder free competition, and protectionism born of the Credit Crunch is making things worse. This is the message from Emirates Airlines as it struggles against the alleged tactics of the Star Alliance, SkyTeam and Oneworld.

Alliances are essentially airlines' way of getting around restrictions preventing them from merging to form global companies. But alliances can only exist using antitrust immunity from competition laws, notably in the US and Europe.

However with the three dominant players signing up more and more airline members, concern has been growing that independent airlines are stifled. In addition, alliances have considerable lobbying power, with global reach.

Andrew Parker, Emirates' SVP government and environmental affairs, says: "We believe policy makers in aviation need to better assess the long-term impact of consolidation and alliances on the competitive landscape." The airline believes competition is the "forgotten story of the economic maelstrom of 2008 and now 2009... it's the missing C in the credit crisis."

IATA director general Giovanni Bisignani has been calling for the 3,500 bilaterals to be ripped up and replaced with a clean-

sheet approach. Speaking at the IATA annual meeting in Istanbul last October he said: "We fight crisis after crisis with our hands tied because flags, not brands, define our business... this must change. Airlines would be free to innovate, free to compete, free to grow, free to disappear, and free to become financially healthy."

"Aviation is without doubt the most absurdly protectionist sector in the world," wrote Times business correspondent David Robertson on Middle East website business24-7.com recently. "For decades individual governments have negotiated rights with other governments to allow certain airlines to fly certain routes on certain days. Bloated nationalised flag carriers have been given favoured status and a toxic combination of national pride and economic protectionism has kept aviation in the dark ages."

John Balfour of Clyde & Co, arguably the world's leading authority on air transport competition law, takes a more positive view: "I think it very likely that there will be a considerable relaxation on a bilateral or multilateral basis."

"We already have not just the 27 countries of the EC, but a growing number of common aviation area agreements with nearby countries and something like 40 horizontal agreements. The EC/US agreement is a significant breakthrough and there are

Continued
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likely to be similar agreements soon,” adds Balfour. But could all these benefits be falling into the laps of a grateful ‘triopoly’ of alliances? This would make the alliances the new ‘elephant in the room’.

Ten years ago the European Air Law Association considered alliances at its annual conference, in a paper presented by Joos Stragier, deputy head of the European Commission’s Unit DG Competition.

In the paper, ‘Current issues arising with airline alliances’, Stragier recognised the theoretical benefits of alliances but also recognised that this “virtual merging” of airlines raised “fundamental questions about their effect of competition in air services”.

For example: “The alliance can have serious anti-competitive effects by reducing or eliminating competition on hub-to-hub routes between networks,” Staiger wrote.

Does Oberstar have a point?

With sentiment in the US flowing towards all-out protectionism, Republican senator James Oberstar, chairman of the US House Transportation Committee, stuck his head about the parapet in early February with an attack on alliances.

Oberstar and his committee added an amendment to the FAA Reauthorisation and Funding Bill which proposes ‘sunsetting’ anti-trust immunity currently enjoyed by an alliance after three years, the Minnesota senator warning that, despite the severe downturn: “We must not lose sight of the longer term issue of ensuring that when the airlines return to financial viability there will be enough competition to offer consumers good service at reasonable prices.”

He says: “I have become increasingly

concerned with the decline of competition in international markets, particularly between the US and Europe. Increasingly the market has come under the control of three alliances composed of one or more US carriers and several European carriers.”

He continues: “I am introducing legislation to require a major study of whether the benefits to consumers of alliances with antitrust immunity outweigh the adverse effects of the resulting loss of competition.

“When the DOT granted immunity for alliances, it wisely reserved the power to amend, modify or revoke the immunity at any time. My legislation provides that no antitrust immunity for alliances may continue beyond three years... unless DOT affirmatively decides that the immunity should continue.”

A key factor is the market domination now enjoyed by the three alliances collectively. According to Oberstar: “Combined, the Star, SkyTeam and Oneworld alliances account for almost 80% of the total world airline capacity, 78% of world revenue passenger kilometres, and 73% of passengers carried. These three alliances control more than 87% of the traffic between the US and Europe.”

He concludes: “It is important to assess whether these immunised alliances have resulted in a reduction in competition, increase in prices or other adverse effects or have used their market power to foreclose rival airlines for competing at alliance dominated hubs.”

The bill also directs a determination to be made as to whether requests for antitrust immunity should in fact be treated as mergers.

Although this all received a cool reaction domestically, non-alliance carriers such as

Emirates will be enthused by the prospects of greater scrutiny of alliances.

However with the historic signing of the EU-US open skies agreement representing a first step towards transatlantic liberalisation, Oberstar could be throwing a spanner in the works.

The Centre for Asia Pacific Aviation published an article in March with the title: ‘Oberstar Wars: Airline protectionism – will the Empire Strike Back?’ It clearly takes exception to Oberstar’s amendment: “The amendment begins by attacking the entire global airline alliance system [and] effectively undermines any prospect of liberalising US airline ownership rules – thereby jeopardising the EU-US open skies agreement. What a dreadful message he sends to the airline world at the very time the airline system is in meltdown.”

Started to question

However, others are looking behind the obvious and started to question whether the alliances themselves are part of the problem, not part of the solution. Another CAPA article, also in March, pointed out that UPS chairman and CEO, Scott Davis, had urged the US and its trading partners to avoid the “huge mistake” of responding to the current dark economic times with measures to restrict free trade.

But how can excluding those who are not part of the alliance club from the best chances of recovery and growth be called free trade?

As ever there is a high level of hypocrisy when it comes to a definition of free trade and what is best for the market.

One gets the feeling that Emirates is simply calling for a level playing field, and a fair game, which is surely laudable.

LUFTHANSA'S ASSAULT ON EMIRATES

“No one is more forceful in their rhetoric against Emirates than Lufthansa,” Andrew Parker told the German Aviation Press Club in December 2008. He gives the example of Canada, where Emirates is limited to three flights a week to anywhere in the country.

While in the US there is “an open and liberal market” for the UAE carrier, “up north in Ottawa, we are regularly told when lobbying for greater access that Lufthansa is against additional capacity for Emirates.” This is because Air Canada is part of the Lufthansa/United-led Star Alliance, he says.

“We find it more than a little puzzling that the German airline is campaigning against competition from a Dubai airline to a Canadian government agency,” adds Parker.

He has obtained a slide from a Lufthansa presentation to its fellow alliance members which says: How can we react to the EK threat? Followed by the bullet-points: “share relevant intelligence; bring into Star Alliance; Bring other Middle East carriers into Star Alliance; Lobby with governments; Try to prove

state subsidies; Stop DXB services; stop interlining – stop filling their planes.

In an article in its Open Sky publication, the Dubai-based carrier points out that in the past few years Lufthansa has tightened its grip on the European market through acquisitions of large or majority shareholdings in Swiss, Brussels Airlines, Jet Blue, Eurowings, bmi, Luxair, Air Dolomiti, Condor and Austrian Airlines.

“We do not deny Lufthansa their right to expand and grow as they see fit, but we do challenge policy makers to more seriously analyse the outcomes of recent consolidation and the impact of alliances on the competitive environment in 2009 and beyond.”

Many airlines, including Lufthansa and Air France, are suspicious of Emirates and continue to accuse it of receiving disproportionate state aid, while Emirates says that it has not received any government help since the seed capital of \$10million it received in 1985. Although charges at Emirates’ Dubai base are seven times less than those at airports such as Paris Charles de Gaulle, it is clear that with its open policy, all carriers are free to benefit from this.

Economic ills

Jeffrey Garten, Yale professor of international trade and a former US under-secretary for international trade, wrote recently that: “The world economy has a metastasizing cancer and the doctors do not know how to stop it from spreading. One problem leads to another, and whenever one remedy is applied, another part of the body contracts the disease. First it was sub-prime securities, then it was other risky assets like collateralised debt obligations, then credit in general, the stock market and a collapse of global growth.

“Now there is an indication that the infection is reaching the vital organ of free trade. The rise of protectionism, if unchecked, will kill the world economy as we know it. The only hope at this point would be for everybody to admit that for political survival; government leaders may have to take protectionist measures, but that they should consult with one another and limit the damage as much as possible.”

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The Qatari national carrier believes the breadth of its network will offset any softness in cargo business in an individual region.

As the worldwide economic graph heads downward and countries grapple with shrinking economies, the ripples have reached even the booming Gulf states. This means air freight in the region has taken a blow, but for the moment at least, regional players remain cautiously optimistic. They are among the few who can see a glimmer of light in the situation.

Worldwide, air cargo is plummeting, reports the International Air Transport Association (IATA), whose cargo statistics for 2008 recorded a drop of 4% worldwide compared to 2007. Of the six IATA regions, only the Middle East showed an increase, of 6.3%, an indicator of the region's economic strength.

However, air cargo's decline worsened dramatically towards the end of the year, as IATA director-general and CEO Giovanni Bisignani pointed out in an address to IATA's World Cargo Symposium in Bangkok in March.

"The industry is in crisis and nobody knows that better than our cargo colleagues. Cargo demand has fallen off a cliff." Year-on-year drops of 22.6% in December and 23.2% in January were "shocking", he says. As 35% of the value of goods traded internationally is transported by air, air cargo is a barometer of global economic health. "The continued decline in cargo markets is a clear sign that we have not yet seen the bottom of this economic crisis," Bisignani adds.

In December 2008 IATA forecast 2009 freight volumes to fall 5%. Combined with a decrease in yields, this would result in a 9% drop in freight revenues to \$54 billion. "Unfortunately, the shocking fall in demand that followed is making these projections look optimistic," Bisignani concludes.

As with 2008's annual figures, IATA reports that January 2009's best regional performance came from the Middle East, where the drop in

Freight expectations

The Gulf's freight market is believed to be the barometer for global recovery – so how is the cargo industry faring?

REPORT **ALAN DRON**

cargo freight-tonne kilometres was a relatively modest 6.1%, compared to 19.3% for North America, 23% for Europe and, most spectacularly, 28.1% for Asia/Pacific.

According to the World Bank, growth in the Middle East/North Africa region will be 3.9% in 2009, a substantial shrinkage from 2008's 5.8%. However, it believes Gulf states' huge budget surpluses accumulated over recent years will allow them to ride out the worldwide slump, even if some projects are shelved or scaled down.

One of the nations likely to be least affected is hydrocarbon-rich Qatar, whose government predicts its economy will grow by 10% in real terms this year. Vikram Singh, Qatar Airways' vice-president cargo sales, believes that the airline's expanding network will contribute to a "satisfactory" year.

The airline has grown its freighter network from 10 to 19 destinations in the past two years.

plus 83 passenger destinations. "We are not reliant on one or two trade lanes," Singh says. "We have enough flexibility to access business from different parts of the world to compensate for softened demand in one particular market."

He says Qatar Airways Cargo expects to maintain similar growth in 2009 to the IATA 2008 figure of 6.3% in the Middle East. "High demand remains. Regional air freight has grown at an average of 5.1% yearly over the past two decades."

Qatar Airways currently operates three dedicated Airbus A300-600F freighters. To cope with anticipated continued growth it has ordered Boeing 777 freighters with the first two deliveries in 2010, which will give the ability to serve long-haul cargo destinations in Asia and the US. Up to seven 777Fs are anticipated; as the additional 777Fs arrive, the future of the A300-600Fs will depend on market dynamics.



BA is tapping into the expanding Saudi economy by resuming flights from Riyadh and Jeddah after a four-year gap. Right: Emirates plans to up its cargo capacity in 2009.

Similar expansion of the freighter fleet is expected at Emirates. Currently operating seven Boeing 747-400Fs, it has four Boeing 777Fs and five Boeing 747-8Fs on firm order, with similar numbers on option.

Peter Sedgley, Emirates' senior vice-president, cargo commercial operations, points to still-expanding local GDPs as a source of optimism. Nevertheless, a drop of around 30% in though traffic from China has had an impact on Emirates' cargo business. But Emirates SkyCargo volumes were still around 11% up on last year. "The major concern we have is that there's immense pressure on yields, which are being affected by currency fluctuations."

He highlights the fall-off in the electronics sector, with reduced movements of both computers and microchips. "Two years ago, people would buy a new computer every six months because they wanted the latest technology. Now they are making do with what they have."

Sedgley has seen competitors cut capacity in the face of reduced cargo volumes, but Emirates is coping, he says. "We're not expanding our network this year, but we are increasing capacity and redeploying equipment to take advantage of routes where high demand exists."

For example, Emirates has just introduced a second daily Dubai-Moscow passenger service, which provides additional belly cargo capacity: "The Russian economy has taken a bit of a thump but it still seems to be functioning OK."

Similarly, freight to and from India is "still reasonably healthy". The Indian market has shown "phenomenal" growth in the past two years, he says. Whereas Emirates until recently served just New Delhi, Mumbai and Chennai, it now has 10 Indian destinations served by more

"Until the Americas and Europe begin to see a pick-up in demand in consumer goods and areas such as textiles and garments start to improve, we will continue to see decreases in volumes compared to the previous year."

Johnny Rubio

than 150 flights weekly, carrying more than 2,500 tonnes of cargo.

Emirates plans to increase its cargo capacity by 17% in 2009. Ram Menen, senior divisional vice-president, describes the forthcoming year as one of consolidation, and says the airline will bolster its presence in markets where demand is strong. It has stepped up both pure freight and passenger services to Lagos, Nigeria, and plans to introduce a service from Dubai to Durban, South Africa, in October.

Another airline planning cargo growth in the region despite the recession is British Airways, although Johnny Rubio, area commercial manager for British Airways World Cargo, says he is very cautious about predictions for the coming year.

"Until the Americas and Europe begin to see a pick-up in demand in consumer goods and areas such as textiles and garments start to improve, we will continue to see decreases in volumes compared to the previous year."

The recession in both continents has caused a downturn in the garment and textile sectors, which constitute the bulk of BAWC's trans-shipment business in the Gulf. Rubio is cautious: "I think it's going to be a difficult year," he says. Nevertheless, in January BAWC added four

Dubai-London rotations weekly and at the end of May it plans to re-start flights from Saudi Arabia to London with five flights weekly from both Riyadh and Jeddah.

The resumption of the latter flights after a four-year break is being driven by a combination of passenger and cargo demand and a June 2008 decision between Saudi Arabia and UK to increase the maximum number of weekly flights between them from 13 to 35 as part of a liberalisation of aviation market regulations. Cargo will be carried in the underfloor holds of passenger flights.

Rubio points to International Monetary Fund figures showing that Saudi Arabia's annual exports – excluding oil and refined products – more than doubled to \$33.5bn between 2004-8 as a sign of this market's potential.

Abu Dhabi, overshadowed in the past by Dubai, has in recent years started to become more assertive. In particular, it has been positioning its growing tourism industry in a different market sector from its brasher neighbour and is now undertaking infrastructure and construction projects rivaling Dubai.

Abu Dhabi-based Etihad Crystal Cargo is as a result drawing up plans to expand its operations. At present it operates a single Boeing MD-11F and two Airbus A300-600Fs; three Airbus A330Fs are due to arrive in 2011, while major improvements are being made to increase ground freight capacity at Abu Dhabi airport.

Around 25% of Etihad's cargo originates or terminates at its Abu Dhabi hub, with the remaining 75% in transit. The airline added Lagos, Colombo and Karachi as freighter routes in 2008 and grew its cargo tonnage by just over 20% in the first nine months of the year.



COUNTDOWN

Saudis prepare for Typhoon service entry

With four aircraft now flying at BAE Systems' Warton aerodrome, and with the first four Royal Saudi Air Force pilots having completed training at RAF Coningsby, the Saudi Eurofighter Typhoon programme is gathering pace. A formal handover of the first aircraft is expected in the UK during June 2009.

REPORT **JON LAKE**

When the Kingdom of Saudi Arabia signed up for the purchase of 72 Eurofighter Typhoons, in a deal that was publicly confirmed in September 2007, it represented the most important fighter procurement in the Middle East for decades.

It will give the Royal Saudi Air Force the most modern and most capable fighter in the region, and will crown the ongoing drive to modernise the force.

Saudi Arabia was always expected to be an early export customer for Typhoon, following the Kingdom's long and successful use of other British aircraft types, from the Strikemaster, Hunter and Lightning to the Hawk and Tornado.

The UK Government's Defence Export Service Organisation has headed a long campaign to facilitate the export of the Eurofighter to Saudi Arabia, and the UK's biggest customer for defence equipment.

There were reports that Britain had proposed a \$2.2 billion package, including an order for 50 Typhoons (with 50 options), but it was not until December 2005 that the Saudi Arabian and UK Governments announced the signing of the 'Understanding Document' that underpinned the Typhoon purchase, establishing a Saudi-British Defence Co-operation Programme (SBDCP).

This was a government-government pact funded through the Saudi Arabian defence budget, and saw the

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Step by step from the RAF to RSAF

To meet Saudi timescales, the first 24 RSAF Typhoons (18 single-seat and six trainers) are aircraft that were taking shape on the production line for the British Royal Air Force.

The RSAF will actually take the bulk of the RAF's allocation of early Tranche 2 (Block 8) aircraft – including eight of the first fifteen single-seaters, and six of the first eight two-seat Typhoons. Though identical to RAF aircraft, the Saudi aircraft may be designated as FGR.Mk 50s and T.Mk 51s, rather than using the RAF's FGR.Mk 4 and T.Mk 5 designations. The 24 aircraft diverted to the Saudis will be replaced at the end of Tranche 2 production.

The first RSAF Typhoon, painted in full Saudi markings and the desert Kingdom's distinctive new two-tone camouflage, made its maiden flight on 20 October. This first flight was achieved just 13 months after Riyadh had signed a firm contract to acquire the Typhoon. Subsequent RSAF Typhoons (four are now flying) remain unpainted so far.

In keeping with what one programme insider described as the Saudis' "over-arching principle – we want exactly what the RAF get", the first Royal Saudi Air Force pilots and groundcrew are being trained by the RAF, in the UK. The first four Saudi pilots have already completed training with No.29 (Reserve) Squadron at RAF Coningsby, the Typhoon operational conversion unit, and between four and 18 more Saudi pilots will follow them.

The first Saudi Typhoons are expected to be delivered to the Kingdom in June 2009, after a ceremonial handover in the UK. It may be no coincidence that the RSAF's 'Saudi Hawks' aerobatic team are expected to be in the UK at the same time.

It is expected that the first Typhoons will be operated by a re-formed No.10 Squadron, whose badge already decorates the tailfin of the first aircraft. No.10 Squadron is expected to operate from Riyadh (King Khaled Air Base), having previously flown F-5Es from Taif.



Exercise Green Flag paves the way

The Royal Saudi Air Force is acquiring the Typhoon just as the type is reaching maturity with its initial European customer air forces.

The Royal Air Force declared its Typhoon force operational in the air-to-ground role on July 1, 2008, subsequently gaining clearances to drop live weapons.

This Multi Role Operational Employment Date (MR OED) followed the conclusion of a series of exercises and operational trials in the American southwest, which saw the RAF Typhoon force prove its air-to-ground capabilities.

In Late March 2008 No.17 (Reserve) squadron deployed to NAS China Lake to conduct an intensive period of air-to-surface trials, including releases of eight Enhanced Paveway II and 67 freefall 1,000-lb

'dumb' bombs, as well as strafing ground targets using the 27mm cannon.

Following these trials one aircraft and two pilots then joined No.11 Squadron at Davis Monthan AFB, Arizona, to participate in Torpedo Focus – a major air-to-ground exercise that saw the Typhoon Force drop another 67 bombs – 16 1,000lb dumb bombs, 43 Paveway IIs and eight Enhanced Paveway IIs. The Typhoons achieved a 99.3% strike during this exercise, before participating in exercise Green Flag at Nellis AFB in Nevada.

As this issue of Arabian Aerospace closed for press, the RAF's No.3 Squadron was participating in Exercise Magic Carpet in Oman, flying realistic swing-role missions against Royal Air Force of Oman F-16s in a realistic operational environment in the Middle East.

UK and Saudi Arabia committing to "a greater partnership in modernising the Saudi Armed Forces."

BAE Systems again acted as the UK Government's prime contractor, as the company had done during the two-part Al Yamamah oil-for-arms programme. These had earned an estimated \$63bn, making them Britain's biggest ever Defence export deals.

The UK company's extended industrial presence in Saudi Arabia is such that the kingdom is one of six nations described by BAE Systems as 'home markets' (alongside Australia, South Africa, Sweden, the UK and the US). BAE Systems has had a presence in Saudi Arabia since 1973, and is one of the largest companies in the Saudi industrial sector, currently employing more than 5,000 people. More than half are Saudi nationals.

A contract for the acquisition of 72 Eurofighter Typhoon aircraft, together with training, support and technology transfer agreements, was finally signed in August 2007. The new deal is known as 'Project Salam'. The UK Ministry of Defence highlighted the fact that: "Saudi Arabia continues to be an important strategic ally for the UK in the Middle East, playing a moderating leadership role in promoting regional stability."

Substantial investment

Under the terms of the contract, substantial investment by BAE Systems was promised in the Saudi aerospace industry, with the aim of stimulating new in-kingdom industrial capability, and with the establishment of a partnered support approach between BAE Systems and Saudi industry, including the development of a dedicated engineering and manufacturing

infrastructure and the establishment of a Centre for Arab Excellence.

Local press reports in Saudi Arabia suggested that some 15,000 local jobs would be created in the Kingdom as a result of the project. In particular, Alsalam Aircraft and AEC (which already supported the Tornado, Hawk and PC-9) were expected to receive "substantial logistical and training packages".

From an early stage, it became apparent that the Al Salam programme would involve an unprecedented degree of defence technology transfer to a Middle Eastern country, including the establishment of a Typhoon assembly line in Saudi Arabia.

Though the first 24 Typhoons ordered for the Royal Saudi Air Force would be diverted from a UK Royal Air Force order, and would thus be assembled at BAE Systems' Warton plant, the



Partnership the key for BAE Systems

Increased partnership projects will be the way forward for BAE Systems in the Middle East according to the company's regional vice president Martin Bennett.

Bennett says the opportunities for the company are now greater than ever. "Historically, BAE Systems' business has been focused on providing air capability to the region" he said, "but with the move towards our global initiatives we are able to transfer best practice by leveraging the appropriate capabilities and skills to meet the needs of our customers in the Middle East."

The company has been exporting to the Middle East market since the 1950s. Aircraft such as the Lighting, Hawker Hunter and Strike Master operated throughout the region.

At the heart of the BAE Systems business in the region is the major operation in Saudi Arabia resulting from the Al-Yamamah contract, a government-to-government agreement for the sale of Tornado, IDS/ADV, Hawk and PC9 which was signed by British defence minister Michael Heseltine and Saudi's HRH Prince Sultan Bin Abdul Aziz Al Saud in 1986. BAE Systems are the prime contractors supplying not only the hardware, but a full "turn-key" package including design, construction, training and support.

"We have more than 5,000 people working in Saudi Arabia now," said Bennett.

"Interestingly more than half of these are Saudi nationals." The company has implemented full training programmes with the model being rolled out in other countries. With the Hawk being flown in Bahrain, Saudi, Kuwait, the UAE and Oman the company has also developed training academies to bring pilots from ab-initio through to flight training for F16 fighters.

"It is essential for the region that local nationals are fully employed on the projects," Bennett said, "we have recognised that for some time and the idea of partnership is key."

remaining 48 aircraft (including six two-seaters) would be assembled in-country.

The Riyadh-based Alsalam Aircraft Company, a joint venture between Boeing, Saudi Arabian Airways and Saudi Advanced Industries Company, was originally expected to receive the contract to assemble the aircraft at a "yet to be built" facility in Taif in southwest Saudi Arabia, as part of a strategy to bring high-technology jobs to under-developed areas of the Kingdom. The Alsalam company played a major role in supporting the Hawk and Tornado in Saudi service.

But Boeing had effectively taken a majority stake in Al Salam Aircraft in 2006, posing some difficulties to BAE and the Eurofighter consortium. In an effort to overcome any problems posed by Boeing ownership of Alsalam in ensuring the required technology transfer problems from BAE Systems and its European

Eurofighter partners to Project Salam, a physical separation of the facilities was proposed.

Major overhaul of the RSAF's Tornado fleet has already been moved from Alsalam's headquarters at Riyadh to a new BAE Systems-built facility on a 300,000square metre site at King Abdulaziz Air Base, Dhahran in Eastern Province. This has hangarage for up to 20 aircraft, stores for hazardous materials, workshops, fuel storage, a water desalination plant and power station.

Completed by August

The full facility is expected to be completed by August this year, though part of the development is already open and in use for Tornado work. In-country Typhoon work is scheduled to begin in late 2010, with the first locally assembled aircraft expected to be delivered in 2011.

By March 2008 it was reported that plans for the assembly of these Typhoons would be finalised within "the next two months", amid warnings that time was running out to establish the new assembly line.

Talks between Alsalam Aircraft and BAE Systems were said to be proceeding well, though there was no firm contract, and local manufacturing content, site location, workforce issues and long-term support still had to be finalised.

Mohammed Fatallah, chief executive and managing director of Alsalam reportedly said that his company hoped to begin work on the Typhoons in late 2010, "but that's still an RSAF/BAE decision. We want to transfer real technology here. But any deal must make economic sense for me, my partners and the RSAF."



The Sound of Silents

Boeing banks on dramatic F-15 upgrade to boost Middle East sales

REPORT **JON LAKE**

Boeing has unveiled a new F-15 configuration that it believes will provide a major upgrade option for Saudi Arabia and other F-15 forces.

The F-15SE Silent Eagle marks one of the most dramatic upgrades to the basic F-15 so far. The new variant represents a “balanced, affordable solution to meet future survivability needs”, and is specifically designed to “meet our international customers’ anticipated need for cost-effective stealth technologies, as well as for large and diverse weapons payloads,” according to Mark Bass, Boeing’s vice president for F-15 Programmes.

Brad Jones, F-15 Future Fighters programme manager, estimated the cost of a ‘new-build’ Silent Eagle as being “about \$100 million per aircraft, including spares and training.” At the St Louis unveiling in March, Boeing outlined the company’s hopes that the new variant might attract as many as 190 orders, keeping the St Louis F-15 production line open beyond the existing backlog of 38 aircraft for Singapore and South Korea. With T-45 production drawing to a close, and the end of F-15 production in sight, the St Louis plant had faced reliance on Super Hornet orders to stay ‘alive’.

The new Silent Eagle is aimed at existing Strike Eagle users in the Asian and Middle East markets.

There is some scope for local industrial participation, and detail design, development, and test of the new internal carriage system are available as a collaborative project with an international aerospace partner.

As well as selling new-build Silent Eagles, Boeing is planning to offer a retrofit kit to allow existing Strike Eagles to be brought to the same standard, though this remains unpriced. “We have not been looking into the cost of a retrofit kit at this time. We are mainly focused on new builds”, Brad Jones says

■ **A full review of the new F-15 programme will be published in the next issue of *Arabian Aerospace*.**



Algeria prepares for influx of Anglo-Italian helicopters

The Merlin in the desert (left) and the Agusta A109.

Though both customer and manufacturer remain tight-lipped about the deal Algeria’s \$580m contract for six AW101 and four Lynx helicopters signed in November 2007, is nearing delivery stage.

The helicopters will be used for SAR and transport tasks.

Algeria has no existing SAR helicopter service, and has made arrangements to train an initial cadre of SAR aircrew in the UK. To support this training effort, two AgustaWestland AW109E Power helicopters have been purchased for the express purpose of providing training (and especially instrument training) for Algerian aircrew. These wear UK military serials, and are in service with the UK Defence Helicopter Flying School at RAF Shawbury.

Algerian trainees will then move to the RAF Search and Rescue Training Unit at RAF Valley, where they will fly a pair of newly ordered AgustaWestland AW139s, before moving to RAF Culdrose and RAF Benson for Merlin conversion training.

The Algerian Lynxes are Super Lynx 300s, like those recently delivered to the Royal Air Force of Oman. As such they are powered by

LHTEC (Rolls-Royce/Honeywell) CTS800-4N FADEC-equipped engines, which deliver more performance in hot and high conditions.

The Super Lynx 300 also features new avionics, including an all-new glass cockpit with seven colour active matrix LCDs.

Less has been revealed about the Algerian Merlins, though Arabian Aerospace understands that they will be delivered to the current international specification, powered by General Electric CT7-80 turboshafts, and with a full SAR fit including a 360° degree search radar and undernose FLIR turret.

Algeria can look forward to putting its Merlins into service with a high degree of confidence, despite the harsh conditions in which they may be called upon to operate.

The Merlin’s suitability for desert operations has been demonstrated several times, most recently during Exercise Jebel Sahara in Morocco in October 2008.

The Royal Air Force has also maintained a detachment of Merlins in Iraq since March 2005, amassing more than 15,000 flying hours, and demonstrating impeccable availability figures while operating in-theatre.



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UAE becomes M-346 Master's launch customer

The United Arab Emirates government has selected the Alenia Aermacchi M-346 Master to meet its long-standing requirement for a new advanced trainer aircraft. The aircraft will undertake 'Phase 4' or Lead In Fighter Training (LIFT) for pilots who will fly UAE Air Force Lockheed Martin F-16 and Dassault Mirage 2000-9 fighters.

The announcement, at February's IDEX 2009 show, meant the UAE beat the Italian Air Force to an M-346 deal, as the Aeronautica Militare Italiana's own long-awaited order for 15 aircraft has yet to be signed.

The UAE Government said it was in negotiations for 48 M-346 trainers, and revealed the agreement also includes a broad-based industrial co-operation agreement between Alenia Aermacchi and the Mubadala Development Company. This will include the establishment of a UAE-based joint venture to manufacture composite aerostructures in Abu Dhabi, and which could provide a local final assembly line for the M-346 aircraft.

The M-346 will be operated by the UAEAF in the advanced flying training role, replacing a fleet of about 38 BAE Systems Hawk Mk 63 and Hawk Mk 102 trainers. The UAE Air Force will also procure an armed variant for use in the close air support role, even though development of the M-346's light-attack version is still in its earliest stages.

The split between training and frontline combat aircraft was not officially confirmed at IDEX, though the Request for Proposals issued last year was for 20 trainers, 20 combat variants, and eight aircraft for use by a new air force formation aerobatic display team. The contract will also include the provision of a full ground-based training system, with flight simulators and a tailored training syllabus.

Though the value of the programme was not officially confirmed, informed sources suggest that the trainer deal could be worth around \$1.27 billion, and more with training and support contracts. First deliveries to the UAEAF are expected from 2012, and at least the first four aircraft will be built in Italy, due to the tight delivery schedule.

Alenia Aermacchi claims the M-346 Master is the "only new generation advanced lead-in fighter trainer aircraft currently under development in Europe", though it is actually a development of the Yak-130, which first flew in prototype form more than twelve years ago, in 1996.

Aermacchi withdrew from the joint YAK/AEM-130 programme with the Yakolev Design Bureau and the Sokol Manufacturing Plant in July 2000, and opted to develop a derivative of the aircraft alone, as the M-346. The resulting M-346 prototype made its maiden flight in July 2004, and a second prototype followed in May 2005.

Alenia Aermacchi has worked closely with the Italian Air Force in the development and testing of the M-346. The first prototype was delivered to the Italian Air Force Flight Test Centre at Pratica di Mare in April 2007. In July 2007, the second M-346 prototype flew to the UAE for hot weather tests and operational evaluation by the UAEAF, and later appeared at the Dubai air show in November 2007.

The first pre-series or industrial base line M-346 (LRIP00) was rolled out at Venegono in April 2008. This aircraft was structurally redesigned, with a 30% reduction in parts, increased use of composites (to 20% by weight) and titanium, a redistribution of wing spars and fuselage frames and a new reduced-weight landing gear. All this resulted in a reduction in empty weight of almost 700kg (1,540lb), which in turn contributed to a 20% performance improvement compared to the two prototypes.

Other changes included moving the airbrake forward by 0.9m (2.9ft), the addition of an extra 200kg of internal fuel, and representative embedded training simulation systems, and provision for stores management systems.

The low-rate initial production aircraft first flew on 7 July 2008, later making its official 'first flight' in December 2008. In the same month, the first M-346 made the type's first supersonic flight, reaching Mach 1.15. In May 2008, Alenia Aermacchi announced an agreement with the Support Systems Division of Boeing Integrated Defense Systems to market the M-346 jointly.

Apart from the anticipated Italian order, Aermacchi has a number of prospects for the M-346, including Saudi Arabia and Qatar. The Advanced European Jet Pilot Training programme represents a potential order for about 200 aircraft for the air forces of nine countries (Finland, Sweden, Belgium, France, Portugal, Spain, Austria, Switzerland and Greece), while the aircraft is also a contender in ongoing and planned trainer competitions in Singapore, Malaysia, Indonesia, Ecuador, and Chile.

REPORT JON LAKE

The UAE has at last signed a contract for a new maritime patrol aircraft with Provincial Aerospace to "supply modifications for two Maritime Patrol Aircraft" worth \$290 million.

These will be a pair of Bombardier Dash-8 Q300s, converted for maritime patrol. The contract includes the design of the modification, as well as the incorporation, and integration of new role specific equipment. It also covers training and integrated logistics support for an unspecified period.

The UAE has had a long-standing requirement for a long-range maritime patrol aircraft. Dubai and Abu Dhabi are heavily dependent on shipping for imports and for oil exports, and the UAE Armed Forces have a responsibility for keeping the sea-lanes open, for monitoring pollution, and for long range search and rescue.

In 1998 it was widely reported that the UAE had placed an order for four Indonesian developed CN-235 MPA aircraft. But these aircraft never arrived, and by the Dubai Air Show in 2007, it was clear that the requirement remained unfulfilled, and that the competition was still underway.

Maritime configuration

At that show, Provincial showed a model of a Dash-8 Q300 in maritime configuration and wearing UAE Air Force markings, placing it prominently in front of a poster advertising the Thales AMASCOS mission system.

Provincial is less well known for its Dash-8 MPA conversions than rival Field Aviation. To date, Provincial has provided just two Dash-8s for the Netherlands Antilles and Aruba Coast Guard, while Field have 30 orders for such aircraft.

But according to Keith Stoodley, Provincial's senior vice president for Marketing and Sales: "Our company has been operating and modifying maritime patrol aircraft for over 25 years.

"We have accumulated more than 130,000 hours of MPA mission time on our fleet of ten MPAs (five King Air 200s, two Dash-8 Q100s, and three UAVs) under contract to industry, government and military clients worldwide and have established contracts for 10,000 hours annually.

"Our MPA operational experience is key to our success as a designer, modifier and integrator of special mission aircraft. We have experience with



Double eight

Dash 8s will be converted into possibly the world's most advanced maritime patrollers for the UAE's armed forces

a diverse range of aircraft platforms, tactical management systems, radars, and sensor suites.”

Provincial's fleet operates in 30 countries worldwide and the company has international bases in Barbados, Trinidad and Tobago, and Curacao, Netherlands Antilles and Aruba.

Unanswered questions

Stoodley was unwilling to answer specific questions about the competition, or about the equipment that will be installed on the UAE Air Force aircraft, but did proudly admit that “this was an extensive and exhaustive competition involving many of the world's largest aerospace and defence companies.”

Provincial's general manager Brendan Power said that “Provincial's unique combination of operational and integration experience is such that we maximise the likelihood of programme success by minimising modification and

integration risk. Many of the key structural modifications are proprietary innovations developed by Provincial Aerospace and have been thoroughly tested on our own MPAs.”

Brian Chafe, chief operating officer at Provincial Aerospace described it as “a huge win!”

Certainly the contract is of vital importance to Provincial, and will allow the company to add more than 100 employees to its current team of more than 650.

The Dash-8s used by Provincial to fulfil the Netherlands Antilles and Aruba Coast Guard requirement are relatively modestly equipped, with extended range fuels tanks, Provincial's ADAM (a proprietary tactical management system), an under fuselage FLIR, a 360 degree maritime search radar, and a drop hatch.

The original UAE Air Force Dash-8 model shown in 2007 featured the same nose-mounted searchlight as the aircraft modified by Provincial

for the Netherlands Antilles and Aruba Coast Guard, though this was not on the models shown when the contract was announced at IDEX in March 2009.

Both models did feature the same under nose FLIR turret, the same belly-mounted radome for a search radar, and similar ECM/ESM and/or missile approach warning antennas and both had the same under fuselage drop hatch (also a feature of the Netherlands Antilles and Aruba Coast Guard aircraft).

Search and Rescue kits

This incorporates a windbreak, and is designed to deploy Search and Rescue kits and is pressurised, reloadable, and operated from the cockpit. The aircraft will also feature a fully openable rear door, similar in some respects to the openable door design incorporated on some Field Dash-8 conversions but differing dramatically in other respects.

Interestingly, long before the contract was awarded, there were reports that four of the eight DHC-8-315Q aircraft operated by Abu Dhabi Aviation were expected to undergo ‘MSA (Maritime Surveillance Aircraft) conversion’. One of these was registered A6-ADF – the same registration as was applied to the model displayed at the Dubai Air Show in 2007, perhaps coincidentally. Whether this indicates that there may be a further contract, for two more aircraft, remains uncertain. The original MPA requirement was always expected to be for four aircraft, so this might make some sense.

Last year's Middle East Business Aviation show was marked by a number of key infrastructure alliances coming from outside the region.

Liz Moscrop *finds out why.*

Foreign/local partnerships the key to MEBA's success

Last November's Middle East Business Aviation (MEBA) conference attracted more than 5,000 visitors from all over the world to the Dubai Airport Expo, with 72 business aircraft worth a combined \$1.6 billion on display as well as 250 exhibitors from 30 countries. Deals worth more than \$1.5bn were announced at the three-day event, while dozens of partnerships were struck between Western and Middle Eastern companies.

MEBA is the brainchild of the Middle East Business Aviation Association (MEBAA) and held under the patronage of His Highness Sheikh Ahmed Bin Saeed Al Maktoum, president of the Government of Dubai's department of civil aviation, and chairman of the Emirates Group. Ali Al Naqbi, MEBAA's founding chairman says: "People from outside the region found new homes for their aircraft during this downturn. MEBA is also a platform to introduce foreign investors to local companies."

Manufacturers made some vital sales. Hawker Beechcraft Corporation sold six Hawker 400XP jets to Saudi Arabian Airlines' Saudia Private Aviation. Bombardier sold a Challenger 300 and Challenger 605 to Jordan's RayaJet. This operator also unveiled a partnership with British flight training company Ayla Aviation Academy, as well as SAMA—a new fleet-handling company.

Cessna also did well. Captain Saad Wallan of Wallan Aviation confirmed \$90m in Cessna sales. Trevor Esling, Cessna's vice president, international sales, EMEA says: "We know that the Middle East market is very much a see it, touch it, feel it market and MEBA allows us to establish relationships on a face-to-face basis."

Al Jaber, which is setting up a VIP charter operation branded AJA, swept the board with an order for four Airbus A318 Elites, two A319-based Airbus Corporate Jetliners, four Embraer Legacy 500s and four 450s. Chairman Mohammed Al Jaber says: "The breathtaking economic

growth over the past decade in the Middle East has created a sizeable business aviation market."

Canadian completions group Project Phoenix sold a CRJ200 to Egyptian film producer Yousef Mansour. He will use the 12-seater, which will be managed by ExecuJet, to fly film crews between locations. Another Canadian company, flight support services provider Skyplan, announced the launch of an operation in Sharjah. North American conversions specialist Genesis Custom Jetliners has opened a sales office in Dubai.

Meanwhile German operator DC Aviation signed a deal with the UAE's Al-Futtaim Group to establish a new company in the region this year. And Italian OEM Piaggio Aero partnered with Abu Dhabi's Aircraft Technologies to create its first Middle East authorised maintenance centre at Abu Dhabi Airport.

Swiss operator VistaJet announced it would expand its Flight Solutions service deeper into the region with a programme that will include jet membership, partnership and ownership. North America's Avjet announced a venture on aircraft sales and acquisitions with Abu Dhabi-based Executive Aircraft Sales. Farnborough, UK-based charter operator Gama Aviation announced plans to apply for an AOC operating out of Sharjah. And fellow British private jet company Ocean Sky said it would open a new facility in the region, probably in Abu Dhabi.

Some Middle Eastern companies are reaching into Europe. Abu Dhabi's Prestige Jet has purchased Madrid-based aircraft management and charter service, Flylink Express. And Bahrain-based Rizon is building a facility at Biggin Hill airport, near London. Rizon has AOCs in the UAE and Bahrain and a fleet of Hawker Beechcraft and Bombardier aircraft under management.

MEBA also provides a vehicle to chalk up partnerships among the region's major players. Abu Dhabi's Royal Jet and Jordanian operator Arab Wings announced they would team up on aircraft management. The companies say they will jointly market an Arab Wings-managed Bombardier Challenger 605.

Ammar Balkar, chief executive of Dubai-based Elite Jets, admits the Middle East is affected by the current economic crisis. "We don't operate in a vacuum," he says. "This region has seen a 30% drop in business, which is only half of that in the US, but it is a significant dip."

And while other shows are battering down the hatches until the storm clouds abate, MEBA has already sold slots for its 2010 event. "The private aviation industry is thriving here in the Middle East," says Alison Weller, director, F&E Aerospace, which organises the show on behalf of MEBAA. And the show will stay at Dubai, says Al Naqbi: "MEBA will remain at the Expo for now. We have had no serious requests from another airport for 2010."

5500

Number of trade visitors who attended the MEBA three-day event in November 2008

1.5

Billions of dollars of deals announced at the event

72

Aircraft, worth \$1.6bn, that were presented on the dedicated static park



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ExecuJet ploughs a path through the crunch

The Middle East has been viewed as a cash rich market, and while certainly the Sheikhs and Princes remain recession-proof, lower down the ladder the crisis is taking its toll, believes Andrew Hoy, ExecuJet's executive director for Aircraft Sales.

"The biggest problem is that the banks have stopped lending," he says. "Before, it was easy to get asset-based financing, and because the banks were happy to lend buying a business jet was easy over the past few years. But now banks are seeing the drop in aircraft values and are not offering the same finance packages."

"If you have a Bombardier Challenger that is sold for \$19 million, the banks view the aircraft as having a wholesale value of \$16m and therefore are only offering \$14m in finance," says Hoy.

Yet for Hoy and his sales team throughout the world, including four representatives in the Middle East, the downturn is stabilising. Aircraft values may be falling, but Hoy is seeing increased demand in narrowbody aircraft such as the Bombardier Learjet 45.

"As a result the narrowbody prices are also dropping. A Learjet 45 can be bought for \$5m. What we're seeing is that someone who is looking to buy a widebody would need to put down that sort of figure as part of the

financing package. The result is that some customers are opting to purchase a smaller aircraft instead," he says.

Hoy says his sales team is close to closing three Learjet 45 sales in just a month in Europe and the Middle East, while as the exclusive agent for the Learjet 85 in the region, his team have sold nine aircraft in the past few months.

*The business jet market may be down, but there are bargains to be had, ExecuJet sales chief Andrew Hoy tells **Phil Nasskau**.*

"The Learjet 85 has been the biggest seller among narrowbody aircraft in the region, even in a market downturn. This shows that there is confidence in the market, as well as the aircraft," he says.

The customers are there, but they are just harder to find, Hoy says. "Before the credit crunch there were plenty of customers who wanted to buy an aircraft. Out of 100 customers, around 20 had a genuine need for them. The rest just wanted one. Those 80 customers just wanted a jet and have mainly washed away. We just have to look harder for the customers with a need."

The Middle East still offers many challenges to selling business aircraft, especially with the smaller companies that have jumped on the business jet sales bandwagon. Hoy says: "The first question asked of a potential customer is 'do you have financing arranged?' Before that was never an issue.

"There are a lot of smaller companies that are hungry to do deals and are knocking down their commission rates. We want to work out a fair commission structure that offers the value we add. We can sell the aircraft, manage it, crew it, refurbish it and maintain it. We aren't just a fire and forget company. We have over 800 people working here and have local expertise," he says.

Funding issues aside, Hoy says finding customers with the need can be a challenge. You have to convince customers as to why they should buy from a company with ExecuJet's background and experiences. "We look after them," he says.

First time buyers in particular are proving more of a challenge. "They are less impulsive, better informed and are taking longer to look around. Because there is more choice on the market they are not rushing and won't pay a premium.

Continued
on Page 28

Bombardier Learjet 40XR.

They will scan the market and make sure they know which aircraft they want," he says.

This choice is becoming so apparent for buyers. "A buyer can right now choose the colour schemes.

"They can come to us and ask for a Challenger 604, with less than 4,000h with cream upholstery, dark wood, two DVD players and SATCOMs. And they can get just that," says Hoy.

He believes that one of the reasons for ExecuJet's success is that his sales team are focused on finding the aircraft that the customer wants - even if it means passing up something on the company's exclusive mandate.

But it is also the company's handle on local expertise and worldwide coverage alongside its other business aviation-related activities.

"We currently manage 155 aircraft. Eventually these aircraft are going to be up for sale, and they'll come up for sale through us.

"When our customers want to upgrade from a Challenger 604 to Global 5000 we'll be able to sell it," he says.

"A lot of buyers in the region want an aircraft on the A6 [UAE] register so that it can go straight into commercial operations, or on the N [US] for private operations," he adds.

Floor of the price drop

With used aircraft prices beginning to flatline Hoy believes that over the past quarter prices have dropped by as much as 20% on some types. "I believe we're at the floor of the price drop. This is not because of guesswork but I am seeing prices become static.

How much lower than \$5m can you go for a Learjet 45? I have Challengers available for \$12m, and these are not old aircraft. Prices just cannot go any lower."

Hoy believes the Middle Eastern market is less nervous than the rest of the world. It is less affected by the credit crunch, though it has been exposed to a degree.

The Middle East's view on business jets has previously focused on the luxury aspect and keeping up with others. "Previously there would be a case of 'you've got a G4, I'll get a G5'. But the region is quite well served with good airlines and first class is becoming more common. It is less of a business need and more of a luxury," he believes.

He believes that for many corporations ExecuJet's SimplyFly service will become more and more appealing, and certainly he thinks it could bode well for the Middle East. "For many companies it is important to get the aircraft off balance sheets. This is in part due to the bad press," he says.

SimplyFly involves ExecuJet owning the aircraft and thereby taking it off a company's balance sheet while in all other respects the aircraft belongs to the customer. "We own the aircraft and manage it as well as provide the crew. But it is entirely yours; it is your interior, your magazines and your DVD collection. The

Rizon aims for a rapid

Expansion is on the cards for Rizon Jet. It currently has three aircraft in service with the latest arrival, a Challenger 605, having joined at the end of March. The 605 complements a Hawker Beechcraft Hawker 900XP and a Premier IA.

In addition to January's order for Lear 85s, it is due to receive an additional three aircraft by the end of the year, as well as managed aircraft in 2010 and a Bombardier Global Express in 2010.

Will Curtis, Rizon's chief executive, says: "It's a great time to drive a bargain on a new aircraft. We won't still be in recession in 2013/14. And if we are, then that will be the least of our worries. Aviation is all about looking three or four years ahead and spotting the trends. It is the only way to succeed. If you follow the herd, you'll never gain the edge."

Presently there may be negatives associated with private jets, but, Curtis says: "Executives are being expected to work harder and harder. More productivity comes from the use of business jets. If that were not the case very few companies would have flight departments or use chartered aircraft."

However, Curtis believes that business aviation will become more leisure-orientated in the future. "I believe it will become less and less required in the world of business because technology will takeover. You will be able to videoconference effectively and that can reduce travel," he says.

Curtis says the market is quieter than last summer. "Our aircraft are flying at roughly the levels we expected. Perhaps 10% down, but not terminal problems by any means." If anything, Curtis believes the current period of uncertainty will create a shakeout of business aviation companies in the Middle East, specifically on operating standards.

"The rules and regulations are set, they are based on EASA's. We want to educate the customer base on the importance of good Standard Operating Procedures (SOP), the value of crew training and the value of a well-run operation. We want to change mentalities," he says.

Curtis believes that the Middle East isn't feeling the crunch as much as other regions because Middle Eastern investors have brought their money home from the West. With money in the Islamic banks it is safe and there is some liquidity in the region.

Curtis has faith in the region's ability to pick up. "We are going to see what happens, but I expect it to pick up in mid-2010. We're not going to see the giddy heights of 2007-08 but at least we'll be going up again," he says. "When people talk about the Gulf, they talk about Dubai. But some of the peripheral areas are doing well too. We are putting a big investment into Qatar, which is expected to have 11% growth this year, and Bahrain is expecting growth too."

And Rizon has a strategy, along with a business



"Business will not succeed or grow if you shrink back and stop your sales team from seeing customers."

Andrew Hoy

customers lease the aircraft back from us on a fixed monthly rate and are guaranteed the costs for the next five years," he explains.

The result is that the aircraft's use is tax-deductible as business travel "that isn't necessarily seen by shareholders" and that customers are not owning a depreciating asset, he says.

"You are boarding your own aeroplane. You will recognise the pilots because you chose them."

Hoy believes that the Middle East is stepping away from the luxury aspect of a private jet, and that as the region becomes more business-centric it will be the smaller firms that are tempted by SimplyFly.

While the market is having some shakes Hoy is adamant the market is still strong and that the Middle East remains a top priority.

The pre-owned market "still remains hot", he says. "There are naturally some white tails [unsold new aircraft] and some great deals to be had. There are customers that had 2010 deliveries scheduled but are putting this back to 2012, and during this period of uncertainty are buying something cheaper."

Hoy hopes business will pick up by the third quarter of 2009. "People are watching the banks and the construction industry, but the Middle East needs efficiency in business. A business jet can give that efficiency. The market will stay stable at its current position and once the summer holidays in the region come to an end around October we think we'll see an increase in activity," he says.

rise in the market place

model, that Curtis believes will see Rizon through. Part of that strategy is the company's development of a maintenance facility at London's Biggin Hill airport and at an undisclosed location in the Middle East.

Curtis believes the development of maintenance facilities in the region is key to success. "Even though we are sitting in a recession, the manufacturers have two more years of production to deliver, even with cancelled orders," he says.

For each year of operation a business jet will require four weeks of hangar time for maintenance. Using that figure Curtis reckons that at present there are maintenance spaces for 270 aircraft. "Yet there are already 330 aircraft in the region," he says. "By the end of 2012 the prediction is that there will be more than 500 in the region, and quite clearly a shortage of maintenance facilities."

With the hangar development at Biggin Hill, Rizon claims to be the first Middle Eastern private jet company to set up a base in Western Europe. "Usually it's the other way round," says Curtis. "This is a sign that Middle Eastern business aviation is beginning to come of age."

The hangar facility at Biggin represents an investment of \$20m. "We are renting a temporary hangar to get our maintenance approval set up. We have sales people selling the maintenance, so that when the new hangar opens in late September we

already have our EASA145 approval and hopefully already a number of maintenance contracts in place.

Curtis believes that there will be two main challenges facing the Gulf's business aviation future; infrastructure and skilled labour. "It is essential that every developed economy, or economy that wants to develop, makes allowances for business jet travel. We know big deals are made by people arriving on private jets," he says. "There is not a huge awareness at government level as to the value of business aviation to the economy." However, Curtis concedes that new airports in the region such as Jebel Ali and Doha are making considerations to business aviation.

Curtis fears there will be a skills shortage when the market starts to recover. "We saw the ugly side of the skills shortage up to the end of last year. Maintenance facilities struggled to retain skilled staff. And while crew resources have eased somewhat, we're already seeing an increase in the number of pilot CVs arriving," he says.

"The Gulf governments need to look at rectifying the skills shortage. They need to train their own resources; they cannot continue to rely on expat labour. While in the past a lot of resources came from the Indian sub-continent and the Far East these economies are developing and starting to employ their own skilled individuals. There won't be a financial case for these individuals to come to the Gulf and this will put wage pressure on here."



Rizon chief executive Will Curtis.

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Middle East retains its hunger for rotor power

AgustaWestland helicopters are used for top-level tourism and VIP transport.
PICTURE: HELIDUBAI

REPORT PAUL DERBY

The Middle East has a voracious appetite for helicopters. It is a hunger fuelled by the region's plentiful reserves of oil and a decade of rapid economic expansion. With oil prices reaching record highs of \$147 a barrel in July 2008 the financial impetus for oil exploration was at its peak. It marked the zenith of sustained high prices which for years had been driving operator demand for new aircraft. Since then more than \$100 a barrel has been wiped off the price of oil, and the economic landscape today is very different to that of 12 months ago. Yet the demand picture for helicopters in the region "remains remarkably strong".

While oil prices are substantially lower, they have not fallen to levels which immediately threaten exploration investment from the major oil companies. BP chief executive Tony Hayward reassured investors recently with the message that BP could, if necessary, continue its investment programme with an oil price at \$25 a barrel.

Elsewhere, despite the economic gloom, the Middle East's growing reputation as a tourist destination continues to feed demand for leisure flights by helicopter and its powerhouse credentials as a hub for business mean that the corporate and VIP segment remains one of the world's strongest outside the domestic US. Investment in emergency medical services (EMS) aircraft in countries across the region is also on the increase.

Honeywell's 11th Turbine-Powered Civil Helicopter Purchase Outlook paints a mixed picture for the industry and for the Middle East. It suggests that "new purchase expectations among operators fell by 20.5% in the Middle East/Africa region compared with an identical

survey in 2008". Oil and gas exploration was ranked the highest application at 48.6% followed by corporate use at 31.4%. Approximately 75% of planned purchases are for multi-engine aircraft.

The oil and gas production and exploration segment's share of new aircraft fell to 5.6% in the 2009 survey after posting a 9% share in 2008 and a 14% share in the 2007 survey.

In the medium to long term the helicopter industry's wide array of applications is a helpful buffer against the worst of the global recession. US-based Forecast International underlines the size of the light commercial market for helicopters globally. It projects production of 8,839 turbine-powered helicopters between 2008 and 2017 valued at \$37.7 billion.



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Aerogulf Services: taking a new tilt at charters

Aerogulf Services is set to become one of the first Middle East operators to put the Bell Agusta BA609 tiltrotor into service. The Dubai-based operator has placed deposits on two BA609s and plans to use the aircraft for charter operations, beginning in 2011.

With a heritage dating back to 1976, Aerogulf Services has been providing support to Dubai's offshore oil and gas industry for more than 30 years. Based at Dubai International Airport, the company has been expanding its services into the leisure industry in recent years, creating a 'Fly Dubai' experience, allowing visitors to experience all the emirate has to offer from the sky.

Captain David Buttler, formerly Aerogulf chief pilot and now Operations Director, says offshore work still accounts for the bulk of the company's business: "I would say that 90% of our work is in offshore oil support. We have four Bell 212s under contract to Dubai Petroleum every day.

"Our workforce is about 75 people and of those 23 are pilots. We have lots of nationalities, including Germans, Kiwis, Swedes, South Africans and Venezuelans. I've been here for 11 years.

"The economic situation means that the tourism side is a little slower, but on the offshore side we haven't seen a marked impact. Whatever the barrel price of oil, companies still need to get workers out there to extract it." Aerogulf is the only operator in the region to provide a scheduled night service to offshore locations 365 days a year.

Aerogulf operates one Bell Longranger and one Bell Jetranger, mostly handling tourism work. With Bollywood directors choosing Dubai as a location for filming in increasing numbers, Aerogulf has increased its media-related work, as well as other sectors including heavy lifting, seismic surveys and adventure tours. The company also provides maintenance services on Bell and Agusta/Bell model aircraft including the 206, 407, 212 and 412.

AEROGULF SERVICES FACTFILE:

BASE: Dubai International Airport
FLEET: 6 x Bell 212s, 1 x Bell Jetranger, 1 x Bell Longranger
KEY SECTORS: Offshore oil support, tourism charters, heavy lifting, seismic surveys, aerial filming, adventure tours



Since its inception in March 2006, Falcon Aviation Services (FAS) has grown rapidly, and its Bateen Airport base in Abu Dhabi is now home to more than 120 staff and a mixed fleet of helicopters and corporate jets.

FAS currently operates 14 helicopters plus a Gulfstream G450 and an Embraer Legacy 600, with a further 24 aircraft on order as part of ambitious growth plans through to 2012.

The company's core business is split between its main business of tourism, plus an increasing presence in the offshore oil and gas market, and corporate/VIP transport. FAS has also developed niche products including aerial banner towing.

"On balance tourism represents the largest part of our business," says Sara Brandinelli, sales manager. "We have also begun a contract with Total, providing an offshore shuttle service. It's a three-year contract which started in July 2008 and we operate a new Bell 412EP."

Abu Dhabi Aviation: playing a key supporting role

The largest commercial helicopter operator in the Middle East employs some 750 people, including more than 120 pilots and more than 220 maintenance engineers.

Since its formation in 1976 Abu Dhabi Aviation (ADA) has expanded quickly, growing its fleet to 34 by 1985 and gaining authorisation to operate fixed wing aircraft in 1985. It now operates eight Bombardier Dash-8s alongside a rapidly increasing rotary wing fleet.

The company's key market is to support Abu Dhabi's offshore oil, construction and engineering

Falcon Aviation Services: now growing FAS in Abu Dhabi

FAS FACTFILE:

BASE: Al Bateen Airport, Abu Dhabi
FLEET (ROTARY): 4 x Bell 412EP, 2 x Bell 206, 4 x Eurocopter EC130, 1 x Eurocopter EC135 Hermes, 2 x AgustaWestland Grand, 1 x Eurocopter Dauphin
KEY SECTORS: Helicopter tourism, offshore oil, corporate transport, aircraft management, aerial banners, search and rescue
APPROVALS: Eurocopter approved service centre, Sikorsky S-76 approved service centre

Helicopter tourism continues to be a growth area for FAS. In July 2007 Alpha Tours selected the operator as a strategic partner and it began operations with a single Eurocopter EC130, adding a second EC130 three months later. In November 2007 FAS began

operating from Dubai Festival City and last August opened a new passenger lounge there.

FAS plans to replicate this successful Dubai model in Abu Dhabi. It is working with Abu Dhabi Tourism to develop plans, including a city helipad to support tourism services. There are also plans to provide emergency medical services.

Already established as a Eurocopter authorised service centre, FAS is expanding this part of its business and later in 2009 will perform a similar function for Sikorsky S-76 aircraft. A 5,500sq m corporate jet maintenance facility is also nearing completion. Corporate clients have a choice of an AgustaWestland Grand or a Eurocopter Dauphin and FAS has secured approval to operate from the Burj Al Arab.

ABU DHABI AVIATION FACTFILE:

BASE: Abu Dhabi International Airport
FLEET (ROTARY): 8 x AgustaWestland AW139s, 15 x Bell 412s, 19 x Bell 212s, 4 x Bell 206s. 13 x AW139s on order
KEY SECTORS: Offshore oil support, medical evacuation, survey, photography, charter, crop spraying

companies. It has contracts throughout the Middle East, including in Saudi Arabia, Qatar, Kuwait, and Oman, as well as a firefighting contract in Spain.

In an average month ADA carries

15,000 passengers and 162,000kg of freight to offshore locations and 11,000 passengers between offshore locations. ADA provides search and rescue (SAR) support for the UAE armed forces, operating from four strategic bases within the UAE and using a fleet of seven AgustaWestland AW139s.

ADA also has a heavy maintenance capability for AgustaWestland, Bell and Eurocopter aircraft, alongside a component overhauls facility and other services including engine support, structural repairs and refurbishment.

Sikorsky sets sights on Middle East with S-76D



Saudi's Royal Family flies in a VIP S-92.

Sikorsky is targeting the Middle East as a key market for the latest version of the S-76, which completed its first flight in February. The S-76D features additional hot and high capability, Pratt & Whitney Canada 210S engines and a new Thales avionics system. Sikorsky says 25 of the 100 deposits on the aircraft are from Middle East customers.

"There's no doubt that the Middle East is a vital market for Sikorsky," says Steve Estill, vice president, strategic partnerships. "We are really focused on this region now. We believe that with the S-76 and the S-92, the offshore oil market has great potential for us. The S-76D is very much tailored to Middle East missions."

Sikorsky has underlined its intent to build a stronger presence in the Middle East through a partnership with Falcon Aviation Services (FAS). Sikorsky Aerospace Services and FAS will establish a Customer Support Centre in Abu Dhabi for S-76 helicopters. The facility will be the first of its type supporting S-76 aircraft in the Middle East.

■ Sikorskys enter service in Saudi

The helicopters ordered by the Saudi Arabian Ministry of the Interior at the last Dubai air show in November 2007 are now starting to enter service with units of the General Civil Defense Administration (GCDA). The Ministry ordered 16 Sikorsky S-92s and 15 S-76s, plus a follow-up five-year maintenance and support contract with Sikorsky Aerospace Services.

The twin-engined S-92 can carry nine passengers in executive fit, 19 passengers in an airliner-type configuration, or 22 in the utility role, using side-facing seats. The aircraft can be rapidly reconfigured into various SAR and aeromedical fits. The Saudi S-92s have a rear loading ramp, sliding doors on both sides, an undernose FLIR turret, and a winch fitted on the starboard side. The configuration of the smaller S-76s has not yet been confirmed.

They will replace an ageing fleet of 17 Kawasaki-Vertol KV-107s based at Riyadh (King Khaled Air Base), Dhahran (King Abdullah Aziz Air Base) and Jeddah (Prince Abdullah Air Base), and may form the equipment of new units at further bases.

The November 2007 contract also included a launch order for nine Schweizer 434 training helicopters. The Schweizer 434 made its maiden flight in December 2008, and the first aircraft for Saudi Arabia was delivered in February 2009.

Falcon Aviation Services has already signed delivery position agreements for four S-76D helicopters with Sikorsky. The aircraft will be used for VIP and corporate transport missions.

Sikorsky is also in negotiations with Gulf Helicopters of Qatar to create a fully-capable depot to perform component replacement and overhaul work. Sikorsky plans to increase its training capability in

the region, possibly through a joint venture with Gulf Helicopters that would place S-76 and S-92 simulators in the region.

Estill adds: "We have worked very hard to establish the S-92 in a Head of State role in the Middle East and that has been a great success. The aircraft is performing that mission in Bahrain, Kuwait, Qatar and in Saudi Arabia where the royal family is now flying in the S-92."

AW's Turkey HQ is a base for growth

AgustaWestland's opening of a regional headquarters in Turkey in 2008 signified its intention to increase its presence in the Middle East.

The Ankara base is seen as an ideal platform to build on the company's growing share of the Turkish market and will also manage the Tactical Reconnaissance and Attack (ATAK) programme, under which AgustaWestland will supply 50 T129 helicopters to Turkey.

The programme, which is worth \$1.3 billion, will see Turkish Aerospace Industries (TAI) take the role of prime contractor, while AgustaWestland and Aselsan will be key sub-contractors.

Elsewhere, AgustaWestland has sold 10 AW139s to Gulf Helicopters in Qatar plus two AW139s in VVIP configuration for the Dubai Air Wing. Other AW139 customers include the Qatar Emiri Air Force, Saudi Aramco and Abu Dhabi Aviation.



AW139s are in use throughout the Gulf and highly rated by the Abu Dhabi police force.

Bell targets offshore oil, security and EMS

Bell is targeting specialised users in the Middle East for helicopter sales, according to Dane Pranke, Bell's Regional Manager for Sales and Marketing in the Middle East and Africa.

"The Middle East has increased in importance for us significantly in the past five to eight years," says Pranke. "In the next 10 years it will be one of our two largest growth areas. Really, since 9/11 with the oil price at a sustained high level there has been a major expansion in the offshore market. This has translated into sales opportunities."

Bell already has large numbers of aircraft in the Middle East, with more than 100 212s and 412s operating with Abu Dhabi Aviation, Aerogulf Services, Falcon Aviation Services, Gulf Helicopters and Saudi Aramco. In Egypt, Petroleum Air Services operates 10 212s and the same number of 412s.

"The oil price is one of three key drivers for us. The second driver is the security segment. Both on the civil and military side, law enforcement agencies in the Middle East are increasing their fleet size. Thirdly, the EMS mission is becoming increasingly important here. Just about every country we speak to is looking very seriously at EMS investment."

Pranke says the impending entry into service of the Bell 429 will strengthen its opportunities in the Middle East for EMS sales. Bell has also secured nine commitments from Middle East customers on the BA609 civil tiltrotor.

Eurocopter increases Middle East presence

Eurocopter has increased its foothold in the Middle East in recent years, with more than 650 military and civil helicopters now flying in the region.

An agreement with Falcon Aviation Services (FAS) to establish an authorised maintenance centre was concluded in 2007 and since then Eurocopter also sold the first VVIP Hermes version of the EC135 to FAS.

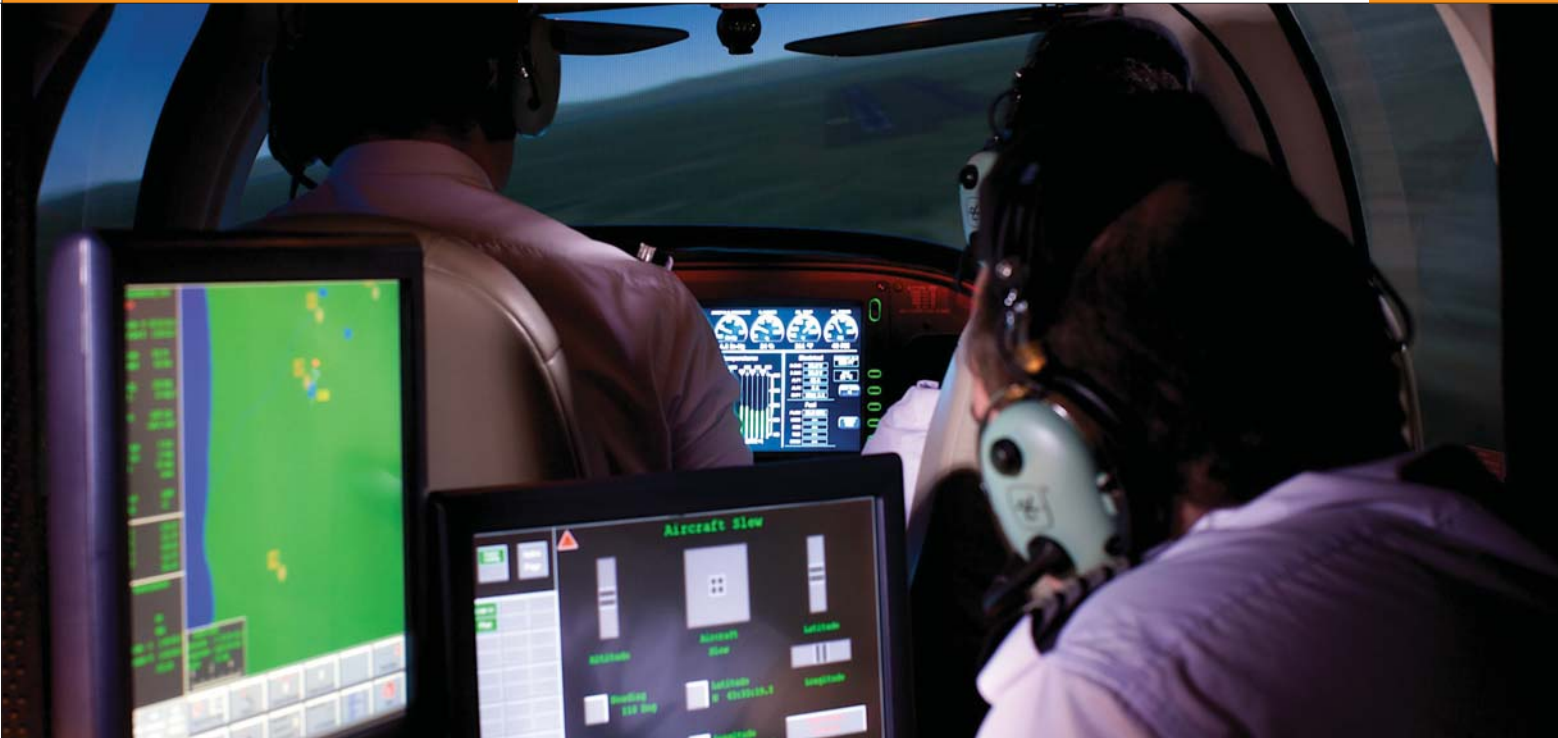
Petroleum Air Services of Egypt has agreed to buy an additional EC135 with two options, bringing its EC135 fleet to three. The aircraft will be used to support offshore oil operations. Eurocopter also has EC135s and EC635s in operation in Kuwait and Jordan.



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The Middle East sky train is still running to schedule

With year round sunny skies and an influx of state of the art training schools, Liz Moscrop asks what's not to like about training in the Middle East?

A year ago the flight training sector was booming, as operators claimed there was an urgent need for 18,000 new pilots. The recession has changed that need dramatically – but there is still a pool of rookie pilots to train, albeit a slightly smaller one, believes Marwan Attalla of Ayla Aviation Academy in Jordan.

He says: “We can already feel the effects of the downturn. However, in aviation, it is not as drastic because the recession has had three positive effects: fuel prices, which are our single highest cost, are down; salaries and packages are becoming more reasonable; finally staff turnover, also a big expense, has almost come to a halt.”

Additionally, there has been a recent move towards standardising regulations – the UAE General Civil Aviation Authority (GCAA), for example, is moving towards European Joint Aviation Authorities (JAA) compliance. This means flight training organisations will have curriculums equivalent to the JAA standard, leading to standardisation of procedures and practices across the region.

Training facilities and operators work hand in hand in the Middle East. There are at least 80 airlines in the region, including the newer low cost carriers Air Arabia, Jazeera and Sama. The established firms are also growing: Emirates, Etihad, Saudi's National Air Services, Oman Air

and Qatar Airways are likely to offer plenty of prospects for new pilots.

Dubai-based Emirates-CAE Flight Training (ECFT) was opened in late 2003 as a joint venture between Emirates Group and Canadian training provider CAE. Based in the Dubai Airport Free Zone, it has a 14-bay state of the art training centre providing pilot and maintenance training on business jet types, helicopters and airliners. The facility houses ten full-flight simulators: two Airbus A320/ACJs, an Airbus A330/340, a Boeing 777, two Boeing 737 NG/BBJs, a Gulfstream IV and a Gulfstream V/550, a Hawker 800/800XP and a Bell 412 helicopter.

ECFT has training services agreements with several airlines, as well as numerous corporate aircraft operators. Because it is a JAA TRTO, European aircraft operators can train their crews at the facility without the need to revalidate the type rating with their national licensing authority.

CAE's rival FlightSafety International (FSI) recently expanded its rotorcraft training capacity with its newest centre at Lafayette, Louisiana, US. The new facility is dedicated to mission-specific training for offshore operations, EMS, law enforcement, newsgathering and more.

George Ferito, FSI's director of rotorcraft business says: “The centre will

Continued
on Page 36

offer customer-specific training supporting multiple product lines. Our training programmes will serve all sectors of the industry, including the large and diverse fleet operating in the Gulf.” FSI also provides training to the region generally via its centres in Farnborough and Paris.

One of the most progressive providers is a subsidiary of Alpha Aviation Group (AAG), which has three international schools: one at London’s Gatwick Airport; Clark Aviation in the Philippines, and Alpha Aviation Academy in Sharjah. The Sharjah base is a multi-million dollar JV with low cost airline Air Arabia and has GCAA approval to conduct training for the new ICAO-mandated Multi Crew Pilot Licence (MPL). The school will initially target Airbus A320-family operators, but says will it eventually run similar programmes for Boeing 737, Embraer and ATR aircraft.

In addition to training ab-initio airline pilots under its MPL program, Alpha intends to extend its operations to include training for cabin crew, engineering and other specialist aviation personnel. The company says that it aims to become the largest provider of qualified pilots in the world. It is creating a network of ten schools that span the globe from Europe through the Middle East to South East Asia.

Middle East first

The school is the first in the Middle East to offer MPL training, which will be supplemented by classroom study provided by Oxford Aviation Academy in the UK. “This has been a long time coming,” says the academy’s general manager, Mustafa Ali. “Once a cadet graduates from our MPL programme, they are fully competent and qualified to join an airline with no further training.” Air Arabia’s operations director, Capt Mohamed Ahmed, says the carrier believes this licence will become the “preferred method” of training future pilots.

Another key regional player is Horizon International Flight Academy (HIFA). Based at Al Ain International Airport Abu Dhabi, Horizon is a business unit of Mubadala Development Company, the investment arm of the Abu Dhabi government, chaired by His Highness the Crown Prince of Abu Dhabi. Established in 2003 to date the school has graduated close to 300 pilots and flight instructors. The founder and driving force behind Horizon is its general manager, Mohammed Humaidan Al Zaabi, who joined the UAE Air Force in 1980 and has since been involved in aviation training.

As well as multimedia equipped classrooms, hangars, and a dedicated maintenance department; ISO-certified Horizon has helicopter and fixed wing flight simulators and a fleet of 18 aircraft consisting of Bell 206 Jet Rangers, Robinson R44s, Diamond DA42 Twinstars and Cessna 172SPs. In 2007 the school established a long-term training relationship with Etihad Airways.

The school now also has government approval to offer the Higher Diploma in Aviation Management. Captain Al Zaabi explains the rationale: “In an ideal situation, flight training should be enhanced with business studies to turn



Blue sky thinking for Dubai’s pilot pool

One of the most significant ventures into flight training in the region is Dubai Aerospace Enterprise Flight Academy (DAEFA), a pioneering institution that is using an accelerated, airline-focused flight training regime to create a pool of skilled personnel for the region’s emergent airline industry.

The school aims to satisfy not only demand for pilot training in the UAE but - helped by year-round blue, uncongested skies - attract students from the Middle East, Europe and Asia’s emerging markets.

Based at Ras Al Khaimah International Airport, United Arab Emirates, DAEFA boasts high-tech classrooms, state-of-the-art simulators and some of the most advanced piston and jet aircraft in the world. The academy also offers the first civilian flight training programme in the world to feature a jet aircraft as its basic multi-engine trainer.

DAE Flight Academy uses specially designed curricula to train pilots, to qualify for a ‘frozen’ Airline Transport Pilot License (ATPL) and to acquire the knowledge and skills to become first officers in just 14 months. The ATPL has been approved by the GCAA and complies with the European Aviation Safety Agency’s Joint Aviation Regulations. Prior to training, cadets undergo a rigorous screening process that involves medical, flight grading, and psychometric testing.

DAEFA uses scenario-based training, which takes students step-by-step through increasingly challenging situations, steadily developing their judgement and aeronautical decision-making skills. Students learn to handle sequences of critical decisions accurately, especially under pressure. The school videotapes every training mission – meaning students fly each mission again and again; and instructors help them evaluate every choice they make.

A fresh class starts the 14-month course every other month. Cadets will first fly the Cirrus SR22 piston single, then progress to the Eclipse 500, and have the option to finish with a type rating in a multi-crew jet transport aircraft. “We want to offer our cadets the best training available and prepare them to become successful airline pilots,” says Captain Richard Morris, Managing Director of DAE Flight Academy. They leave the school with all the skills and required training to enter any airline as a first officer.

DAEFA’s parent company DAE is a global aerospace engineering, manufacturing, services corporation that represents an important strategic investment for the Government of Dubai as well as its indirect shareholders, who are among Dubai’s most significant and important organisations including the Investment Corporation of Dubai, Dubai Silicon Oasis, DIFC Investments, Istithmar World, Emaar, Amlak and Dubai International Capital.

out better rounded individuals, who can later move from the cockpit to the boardrooms, bringing with them practical experience of the issues involved in the aviation industry.”

In 2008 the school opened a new satellite operation at Umm Al Quwain. Al Zaabi says: “We are getting additional aircraft for the base, as well as hiring additional instructional and operational staff. When we have everything up and running we hope to duplicate what we have going in Al Ain.” Horizon has ambitious plans for the future and intends to increase its fleet and student capacity. Al Zaabi adds: “We have about 200 students today. We would like to double this number in the next five years.”

Although it is less well-developed than its neighbours, Jordan is working hard to develop a solid aerospace industry and is attracting investors from all over the world. The UK’s Atlantic Flight Training has teamed with the Near East group to set up Ayla Aviation Academy to provide JAA training. The academy is based at King Hussein International airport, which has a 10,000ft runway and 24/7 air traffic control facilities for full instrument training.

Ayla’s glass cockpit-equipped fleet comprises seven Cessna 172s and two Diamond DA42s, and it has an ALSIM AL200-DA42 simulator in situ. Last year it signed a JV with Jordan charter company RayaJet to supply it with pilots. In turn, RayaJet will offer job prospects and the two companies will pool resources. Attalla says: “We partnered with RayaJet to provide continuity and career progression for our staff and cadets.”

Maintenance training

Roughly 56% of Ayla’s students come from Bahrain, with 16% home grown and a further 12% from Oman. The rest of the cadets come from: Egypt, Kuwait, Yemen, Syria, Lebanon, Saudi Arabia and India. Ayla plans to establish maintenance training over the next year, open a third academy within two years and two further schools within four years, possibly in the US.

There are two other schools of note in Jordan. The Royal Jordan Aviation Academy was established in 1966. The school trains commercial pilots and technicians and has affiliations with the University of North Dakota and Utah Valley State College. Awarded ISO 9001 status in 2004, it is located at Amman Airport in Jordan. The school runs Piper single and multi-engine aircraft.

The Jordanian civil aviation authority (JCAA) approved Middle Eastern Aviation Academy has a fleet of high performance single engine Piper Archer III and multi-engine Piper Seminole aircraft. Students can learn to fly, or study engineering and avionics qualifications. The school offers PPL, CPL/IR and ATPL, as well as Certified Flight Instructor, Certified Flight Instrument Instructor and pilot refresher courses. It also runs flight dispatcher training.

Qatar Aeronautical College (QAC) is another major regional player that offers ab initio student training to CPL



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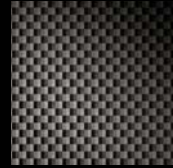
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level with a multi-engine IR and a frozen ATPL. QAC was founded in 1975 with assistance from the United Nations Development Programme. It has now expanded its programmes to include training for pilots, as well as aircraft maintenance engineers, air traffic controllers, meteorologists and flight dispatchers. QAC is located on a purpose-built campus in Ras Abu Aboud, directly behind Doha International Airport.

Airline sponsorship

Airline sponsorship is key to growth in this sector. In 2006 Oman Air recruited a group of ten school leavers to undergo full JAA ATPL training at Ayla's facility in Coventry in the UK. Etihad Airways has set up entry programmes for UAE nationals at Horizon. The course is full-time for 18 months and successful graduates are guaranteed a job as a first officer for the airline.

In 2007 Middle East Airlines (MEA) set up its cadet pilot training scheme. Open to Lebanese nationals, MEA's training takes place in conjunction with Spain's Flight Training Europe, based in Jerez International Airport. All this adds up to a growing industry and despite the current economic storm clouds, it looks as though there are sunny skies ahead for the region's flight training providers.

Thales unveils new simulator

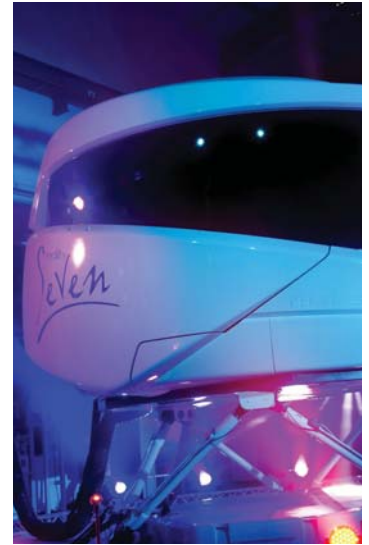
Thales has unveiled a new integrated training package for future training and simulation needs. The New Reality package includes a full-motion flight simulator called RealitySeven – so called because Level Seven is the new Level D, and highest level of simulation available.

Thales says New Reality comprises four sections: integrated solutions, commercial solutions, support solutions and equipment solutions. "This is not just about providing new products, it's about devising new support services, outsourcing solutions and financing options – indeed developing a new way of serving our customers' challenging business requirements beyond today," says Mark Dransfield, Thales strategy director, training and simulation.

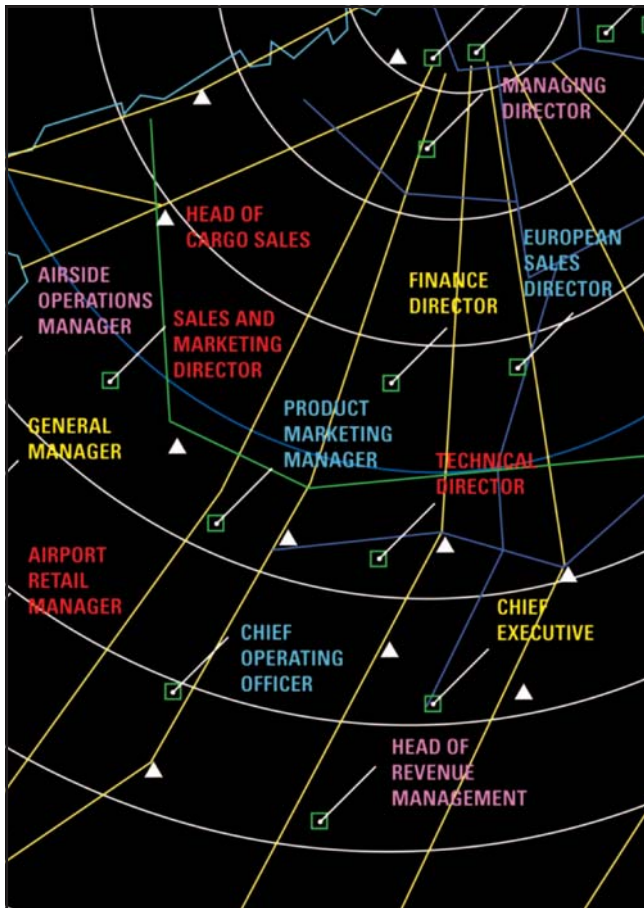
The RealitySeven simulator is modular - cockpit, docking and visual- which means its acquisition costs and operating costs are reduced, as well as delivery lead times. Compared to a traditional simulator, RealitySeven can be shipped in standard containers and assembled on site with no more specialised equipment than a forklift truck.

Axel Gauthy, Thales simulation sales director for Asia, Middle East and Africa, says the three-module construction means operators can switch aircraft types in a matter of days, which will help broaden its appeal in the Middle East. He believes the region will be a prime market for the RealitySeven and that customers could save between 10% and 30% on acquisition costs, while operating costs should be at least 30% less a year over conventional simulator designs.

Initially Thales holds 12 orders for the RealitySeven, with the first of four being delivered to Airbus in the third quarter of 2009. ATCT in Tunisia has ordered one unit and the remaining seven are for undisclosed customers.



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FOCUS ON

ABU DHABI

Aerospace and tourism are the keys to growth

Abu Dhabi is rapidly becoming a player on the world stage of aerospace. While its glitzy neighbour down the road, Dubai, has been picking up the headlines the larger emirate – and the capital of the United Arab Emirates – has been steadily making its play. With the strategic support and financial muscle of Mubadala, the government backed investment business, Abu Dhabi has begun its work on diversifying its manufacturing and technology away from its traditional oil and gas industries and instead is creating new clusters of excellence ... and aerospace is at the heart of that.

Abu Dhabi has a population of 1.4 million and is estimated to grow to 3.1m by 2030 according to the government's urban structure framework plan. It is more than a quarter of all of the population of the UAE and nearly half of UAE nationals are under the age of 15. With a commitment to education and a desire to spend its energy wealth carefully, Abu Dhabi is well placed to grow its own aerospace industry and is already making inroads with space, defence, technology, airlines and airports all thriving.

A key pillar of the growth is the investment in tourism. James Hogan, the dynamic head of the UAE's national airline Etihad says that this investment will drive the growth. A growth prediction that has seen Etihad make the biggest order for new aircraft ever. The country is on the brink of a transport revolution that will radically change the way people and goods travel throughout the UAE. Aviation and the new Abu Dhabi International Airport are a major part of that. But links to the growing number of hotels, safe transport to the many new cultural centres that are being built and even transiting to some of the luxury desert island resorts means the aerospace industry has a bright future here.

The country has undergone radical change under its ruler, and president of the UAE Sheikh Khalifa bin Zayed al Nahyan with a new approach to government planning and monitoring.

There is a high literacy rate among nationals at 87.8% for females and 89% for males. Women outnumber men at universities with campuses from the Paris Sorbonne and New York university in the capital.

Abu Dhabi nationals enjoy one of the highest GDP levels in the world.

Abu Dhabi is the largest of the UAE's seven emirates with almost 87% of the total area.

The country has 9% of the world's proven oil reserves (98.2bn barrels) and almost 5% of the world's gas.



The role Abu Dhabi plays in the UAE Defence Forces

The UAE Defence Forces formed from elements of the British trained Trucial Coast defense force (the Trucial Oman Levies) when the federation of Abu Dhabi, Dubai, Sharjah, Ajman, Umm Al-Qaiwain, Ras Al-Khaimah and Fujairah became independent as the United Arab Emirates on 2 December 1971.

An air force of sorts, the Abu Dhabi Army Air Wing, had formed in 1968, primarily for communications flying, expanding to become the Abu Dhabi Air Force in 1972. A separate Dubai Defence Force Air Wing formed in 1971.

Despite being combined into the United Arab Emirates Air Force and Air Defence (funded by all seven of the emirates) in 1999, the Abu Dhabi and Dubai air forces maintain a degree of separate identity, with the Abu Dhabi Air Force forming the Western Air Command, and the Dubai Air Force forming the smaller Central Air Command. There remains a degree of duplication of some assets and capabilities, though as procurement is increasingly controlled centrally by the overall Headquarters at Bateen AFB, Abu Dhabi, integration and rationalisation is continuing.

The Western Air Command (Abu Dhabi Air Force) operates from Al Dhafra (fighters), Bateen (transport) and Al Ain (training), with a small Special Forces Command at Sas al Nakhil. Central Air Command (Dubai Air Force) operates from Minhad (training), and Dubai International Airport (transport). There are longstanding plans to stand up an F-16 equipped fighter unit at Minhad.

The UAE Army has a small Army Aviation Group equipped with AH-64 Apache attack helicopters at Al Dhafra, while the UAE Navy has a helicopter squadron at Bateen.

With some 10% of known global oil reserves and 4% of natural gas deposits, the UAE has a dynamic, modern economy, and has been able to devote considerable expenditure to its armed forces. The order of battle outlined here will soon be swelled by the addition of three Airbus A330 MRTT tankers, four C-17 strategic transports, two Dash 8 maritime patrol aircraft, and perhaps by some 48 Alenia Aermacchi M-346 trainers and two E-2C Hawkeye 2000 AEW aircraft.

WESTERN AIR COMMAND

FIGHTER WING, AL DHAFRA

71 Squadron	Mirage 2000-9EAD/DAD
76 Squadron	Mirage 2000-9EAD/DAD
86 Squadron	Mirage 2000-9DAD/RAD
1 Squadron (ex 16 Squadron)	F-16E/F
Shaheen 2 Squadron	F-16E/F

*One fighter Squadron also maintains a detachment at Sharjah International Airport
86 Squadron may maintain a detachment, or may have moved to Al Safran*

TRANSPORT WING, AL BATEEN

4 Squadron	C-130H, L-100-30 Hercules
6 Squadron	AB.412HP, AB.412SP, Bell 214
CASA Squadron	CN.235M-100
Puma Squadron	SA.330C/F, IAR.330L Puma

SHEIKH KHALIFA BIN ZAYED AIR COLLEGE, AL AIN INTERNATIONAL AIRPORT

1 (Air College) Squadron	Grub G 115TA
2 (Basic Training) Squadron	Pilatus PC-7
3 (Hawk) Squadron	Hawk Mk.61/63A/63C
Flying Instructor's School	MB.339A
SAR Flight	
(Evergreen contract, op by Falcon)	Bell 412, AW139

The former 2 (Rotary) Squadron has disbanded and helicopter training is now undertaken by the civilian Horizon International Flight Academy (HIFA) using some ex-UAEAF&AD Bell 206Bs

SPECIAL OPERATIONS COMMAND

GROUP 18, UMM AN NAR

Special Operations Squadron	CH-47C Chinook, Cessna 208, DHC-6 Twin Otter
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CENTRAL AIR COMMAND

MINHAD

12 Squadron (ex-102 Squadron)	Hawk Mk.102
SAR Flight	
(Evergreen contract, op by Falcon)	Bell 412, AW139

Minhad AB will house Shaheen 3 Squadron with Block 60 F-16E/F when the training unit moves back to the UAE from Tucson, Arizona

DUBAI INTERNATIONAL AIRPORT

Transport Squadron	C-130H-30, L-100-30 Hercules, Shorts SD330
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UAE ARMY

AL DHAFRA

Army Aviation Group	AH-64A Apache
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Previously part of the UAE Air Force as the 69th Air Combat Group/Apache Squadron

UAE NAVY

AL BATEEN

Navy Squadron	AS.332B/M Super Puma, AS.565SB Panther
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■ In addition to the above, there are a number of Police air units and Government Flights for VIP transport. The Abu Dhabi Police operate AB412s and AW139s from Bateen, the Dubai Police operate a variety of helicopters and light aircraft from the International Airport, the Sharjah Police operate helicopters of various types from Sharjah International and the Ras-Al-Khaimah Police operate Mi-2s and Mi-8MTVs in the Emirate.

■ The Abu Dhabi Amiri Flight operates from Abu Dhabi International with B747-4F6, B747SP-Z5, BAe146-100, Beech Be350 and Dassault Falcon 900 aircraft. The Dubai Air Wing operates B737-BBJ, B747-2B4B, B747SP-31, G.1159A and G.1159C aircraft from Dubai International. The Ruler Of Sharjah has a B737-2W8 based at Sharjah International. The Ruler Of Ras-Al-Khaimah, Ruler Of Fujairah and Umm Al Quwain Royal Flight all use loan aircraft from the Dubai Air Wing and Fujairah Aviation.



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His Excellency,
Mubarak Al Muhairi



The world of tourism and the growth of air transport is inextricably linked. Marcelle Nethersole meets the people with the responsibility of putting Abu Dhabi on the map and finding ways to attract the discerning travellers who have already written off vacations in the emirate's neighbouring states.



MOTHER COUNTRY

It's fair to say that, for most tourists, the UAE means Dubai, the fun-loving emirate with beautiful beaches, luxury hotels and a reputation for glamour and celebrity partying life-style. But, barely 100 kilometres away, the UAE's capital city and the largest of the six emirates that makes up the UAE, is stepping up its focus on tourism with a very different approach. Historically, Abu Dhabi has been thought of as purely a business destination. Ninety per cent of the UAE's carbon resources are in Abu Dhabi which, of course, gives it significant access to funds to invest in diversification.

According to His Excellency, Mubarak Al Muhairi, director general of Abu Dhabi Tourist Authority (ADTA), giant steps are being taken to create a new, sophisticated destination that will attract visitors to either extend business trips or to visit the region for the first time.

"Abu Dhabi is a truly unique proposition with its own distinctive character, philosophy, cultural heritage and aspirations," says Al Muhairi. "True, we share many common qualities and values with our regional neighbours but we seek, above all, to define ourselves by our uniqueness. Our brand reflects the defining characteristics of Abu Dhabi, it embodies the prevailing ambiance of quiet dignity and our deep respect for the

time-honoured traditions and values of our ancestors. It also symbolises our uncompromising commitment to maintaining the highest standards of quality and aesthetic, cultural and environmental harmony in our plans for the development of the emirate's tourism."

I offered His Excellency his potentially most difficult challenge – my mother. She is a culture-vulture who has already decided Dubai does not appeal due to its known partying ways and a lack of cultural highlights. How could he persuade her to visit Abu Dhabi?

"I think your mother would be very happy as we have a unique cultural offering which goes deep to the soul of Abu Dhabi," he says. "I am sure she will be impressed by the daily guided tour of the Sheikh Zayed Grand Mosque, where her national guide would introduce her to the fantastic architecture and the heritage of Sheikh Zayed, the founding father of the UAE. It would also give her an insight into the practices of Islam.

"She could then go and tour the heritage village on the Corniche, or the Al Hosn Royal Palace, the home of our ruling family, or even the Falcon Hospital, where she could try her hand at falconry. She could visit the Emirates Palace Hotel, if she isn't staying there, and see modern Arabian architecture in all its splendour, tour the Emirati

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Expressions exhibition in the hotel's Gallery One and see the work of talented UAE artists.

"She could take a safari in the desert or visit the historic oasis city of Al Ain to tour the national museum, visit the camel market and see the recently renovated Al Jahili Fort, with its fascinating photographic tribute to the British explorer Wilfred Thesiger, who we call Mubarak Bin London, and who crossed the Empty Quarter in the 1940s and 1950s. Culture is all around us. Music and poetry play a large part of life here."

If all that wasn't exciting enough, ADTA has announced that two of the world's greatest museums are to have a presence in the city with the arrival of the Louvre Abu Dhabi and Guggenheim Abu Dhabi.

"You will see the first open within five years," says Al Muhairi, "Ground-breaking of the Louvre Abu Dhabi is imminent."

I asked Lawrence Franklin, strategy & policy division director at ADTA, how many tourists, as opposed to business visitors, Abu Dhabi receives at the moment.

"This is hard to say precisely but from data gathered we had 1.5 million arrivals in 2008 – basically a four per cent year-on-year growth," he says. "We currently have 13,000 hotel rooms and an average of 85 per cent occupancy. We hope to receive 2.7 million guests by 2012 and have 27,000 hotel rooms and we are on course to meet that."

Two of the most luxurious hotels in Abu Dhabi are the Emirates Palace and the Shangri-La but a new project is also being worked on.

"Aldar is planning to open seven hotels on Yas Island," says Franklin "These will be a mix of five, four and three-star, which together will boost Abu Dhabi's accommodation inventory by more than 3,000 rooms and its food and beverage stock by in excess of 30 outlets. They will be managed by world-class operators including Anantara, Radisson SAS, Rotana and Crowne Plaza. Before November we will also welcome the new Aloft hospitality brand to Abu Dhabi when it opens in ADNEC's Capital Centre. This will be the first Aloft property in the Middle East, and the largest in the world, with 408 rooms," he adds.

For those looking to relax on a desert island then Abu Dhabi is ideal. Unknown to many, Abu Dhabi is an archipelago with nearly 200 islands dotted along its coastline, making island hopping a popular pastime. ADTA is working on a new tourism destination development called 'The Desert Islands'.

"Actually Desert Islands is a destination to which you can truly apply the much abused word 'unique'," says Al Muhairi. "They can't be compared to the Maldives or any other desert island. It is a destination where the heritage and the environment

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Desert Island dusks...

Think of a desert island and you'll, like as not, think of the Maldives, St Kitts or St Lucia to name but a few. But, for people living within the region, they don't need to travel far to Sir Bani Yas, the nature sanctuary island fast becoming the Gulf's most luxurious holiday destination. It is just a 50-minute seaplane journey from Abu Dhabi International Airport.

Sir Bani Yas Island is located 170 kilometres from Abu Dhabi City. It was originally developed as a private wildlife reserve by the late ruler, His Highness Sheikh Zayed bin Sultan Al Nahyan, 25 years ago but the island has a long history dating back to the Bronze Age.

The island today has been transformed from a rugged salt-dome to an outstanding breeding reserve. It is home to free-roaming animals and is ensuring the survival of Arabia's most endangered species – in particular the Arabian Oryx.

It boasts two stunning royal palaces, rocky mountains, a pre-Islamic monastery dating back to 600AD, and is also home to the Middle East's largest wind turbine, which produces electricity on the island.

ADTA has entered into an agreement with Masdar, the Abu Dhabi Government's future energy project, to progress an alternative energy plan for the island. It hopes to eventually source 80 per cent of the island's needs from renewable sources. A 'Greening of the Desert' programme has seen the planting of nearly 2.5 million plants and trees, which include frankincense, date palms and olive groves, giving the island a Mediterranean flavour.

"Sir Bani Yas Island is different from any other

desert island," says Lars Nielsen, marketing manager of Tourist Development & Investment Company (TDIC), who is working on the 'Desert Islands' project with ADTA. "It is four worlds on the one island. It offers rockies, desert, forest and water. It is a world class ecological tourist destination like no other and we're proud of that."

The island experience starts as soon as you arrive at Royal Jet's private terminal at Abu Dhabi International Airport, where you just know you are going somewhere special. Once on board the Cessna Grand Caravan you are treated to stunning views of all the islands dotting the coastline until you reach Sir Bani Yas which, at 87 square kilometres, makes it bigger than Abu Dhabi island itself. Weather depending, you land on sea or land. You might be surprised to see a full-sized runway – this was at the request of the Sheikh as he wanted the choice of landing either a helicopter or his 747. The island has a full modern arrivals terminal to welcome guests.

Visitors stay at the beautiful Desert Islands Resort and Spa, which is managed by Thai hospitality group Anantara. "There are 64 rooms, which include The Royal Villa with its own private pool, plus five beach villas with their own splash pools, which today are full to capacity. It is running at an occupancy rate of 80 per cent on weekends and public holidays, with international guests accounting for more than 20 per cent of the visitor footfall since opening to the public in October 2008," says Nielsen.

The hotel has a wonderful beach-front swimming pool, a gymnasium, tennis courts, restaurants and bars



Sundown at Sir Bani Yas. Bottom from left: Oryx, kayaking, the hotel, and the Empire seaplane.

Flying the Empire line...

Passengers to the Desert Islands resorts have the option of flying in on two seaplanes operated by Dubai corporate aviation specialist Empire Aviation.

The company uses Cessna Grand Caravans converted for float operations and purchased from operators in the United States.

The aircraft are owned by Abu Dhabi's Tourism Development and Investment Company (TDIC) but operated on a management contract by Empire.

"We are an asset management company," says executive director Paras Dhamecha, "We now have a fleet of 11 aircraft comprising nine jets and the two Cessna turboprops. We acquire aircraft on behalf of owners and can manage the whole process, including providing the staff and the maintenance as required."

The first of the Caravans was purchased in November 2008 and the second in January 2009 with one configured for floatplane duties and the other with fixed undercarriage.

"The sea landing stage is still being completed on Sir Bani Yas but we are running trials in preparation to beginning the first passenger flights for water landings," Dhamecha says. "There is also a runway on the island which we have been using. The flights are proving very popular"

The 50-minute flights to the island start from Royal Jet's executive airport terminal.

(alcohol is available). There is also a crèche so parents can enjoy the comforts of the family-friendly hotel knowing their children are safe.

The Safaa Spa is set in its own tranquil building facing the sea and offers guests many different treatments. There are various nature-based activities available, which are included in the price of the hotel stay, apart from spa treatments. The rack rates at the resort start at 1,900AED per day, which includes breakfast.

Nielsen adds: "A tour of the island is one of the first things to do. Experienced guides will take you in a 4x4 around the island. You can snorkel in the marine-life-rich waters off the island, which are inhabited by dolphins, dugongs and sea turtles, do archery, kayak through the bird sanctuaries and large mangrove areas (more than 1,500 mangrove seedlings are planted), as well as mountain bike and hike. A guide is with you all the time."

But Sir Bani Yas is all about the animals and a game drive is a must. The safari is led by an island and animal expert and lasts two hours. It is best first thing in the morning or late afternoon. A game drive vehicle will take you on one of the many routes of the Arabian and Safari Parks, where you can get up close to many of the 23 species which include giraffe; cheetah; ostrich; hyenas; and various types of antelope, including the endangered Arabian Oryx.

"The Arabian Oryx are the pride of the island and a legacy left by the Sheikh," says Nielsen. "They were declared extinct in the wild in the 1970s and we are proud to have the largest herd in the world with 400."

The island currently has one hotel with plans for a

few more to be built, but not to exceed more than 1,800 rooms. This is for good reason, Nielsen explains: "We have a saying on Sir Bani Yas and that is 'animals come first' and they always will. This is a nature destination like no other in Arabia, being home to a vast range of animal, bird and marine life, with protected waters and mangrove deposits. Conservation is at the heart of it so we don't want the island to become a big resort."

There is even a speeding law enforced of 50km an hour.

"Even the slowest antelope travels at 60km, so we need to keep the speed lower than that in case one is hit."

Within five months the island has had many visitors and ADTA and TDIC expect many more – especially with the launch of the DASH-8 weekend flights in mid-March. The prices are US \$100 per one-way flight on the DASH-8 and US \$170 per one-way flight on the Cessna Caravan Seaplane where return flights, operated by Empire Aviation, run every Thursday and Saturday with private chartered flights available throughout the week.

Nielsen says: "This added service is providing greater accessibility to Sir Bani Yas Island. This is an incomparable destination and presents a face of Arabia many could never imagine. Day trips will also be added later in the year."

Tourists are also able reach the island by boat. "Currently 90% of visitors arrive by boat but now with the new air services available we expect that to change," says Nielsen.





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ATR

Mother Country

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of the area is being strictly preserved. It will appeal to high net worth individuals and provide a face of Arabia rarely seen.

“The Desert Islands destination is governed by a strict environmental sustainability plan. The waters around Sir Bani Yas Island are protected and rich in marine life. We have the Middle East’s first wind turbine producing electricity and have entered into an agreement with Masdar, the Abu Dhabi Government’s future energy project, to progress an alternative energy plan. We hope eventually to source 80% of the island’s needs from renewable sources.

“Saadiyat Island, which is another flagship project being progressed by TDIC, our tourism asset development arm, is governed by a strict environmental management policy. Developers are restricted from building near natural dunes which protect turtle breeding grounds on Saadiyat Beach and we have established mangrove rehabilitation and replanting nurseries to ensure sustainability of this important biodiversity resource.”

The development of Abu Dhabi International Airport is linked to the plans. Currently there are 37 international carriers using the facility. Will this increase?

“Of course,” says Franklin. “Abu Dhabi is a major part of the global hub that the Middle East has become. We are probably one of the few bright spots on the economic landscape for the next few years.

“Singapore Airlines is upgrading its service to Abu Dhabi to a daily flight. We are working very closely with the Abu Dhabi Airports Company to deliver a winning proposition for airlines. There is strong governmental support, a growing feeder base, a modern and expanding infrastructure and commitment to delivering a sustainable destination through considered, measured growth.

“There is also Al Bateen, used by many business customers, and Al Ain, which also has international business coming through,” says Franklin.

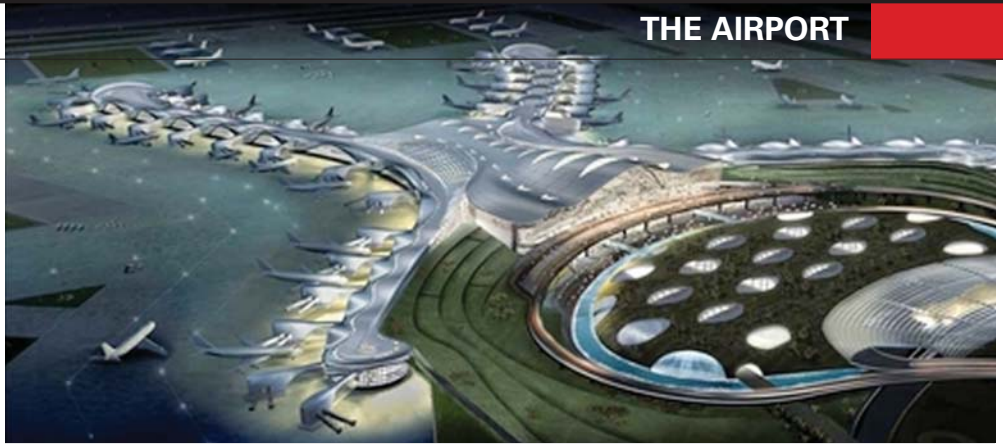
Al Muhairi adds: “I can envisage a lot of swap-over business. People visiting Dubai will hear of Abu Dhabi’s attractions and will visit, whether on a day trip, or a stop-over. The same will be true, and is already happening in the opposite direction. Our offerings are different, but complementary so we should both benefit.”

TDIC (Tourism Development and Investment Company, which owns the Desert Islands complex and of which Al Muhairi is managing director) is now offering charter flights from Abu Dhabi International to Sir Bani Yas Island.

“Private charter will play a significant role in opening up the Al Gharbia region,” says Al Muhairi. “Our intention is to build a high-end destination for discerning travellers and to position Abu Dhabi as the business tourism hub of the region. Business aviation, therefore, would be an essential element in delivery of these goals.”

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THE AIRPORT



Masterplan is the key to gauging capacity growth

While airports around the world are beginning to feel the impact of airline consolidation and reduction in flights and passenger numbers, the Abu Dhabi Airports Company is working to expand in order to meet the growing numbers of passengers both transiting and stopping at Abu Dhabi International Airport.

Its latest figures for February showed a strong increase in passenger traffic from India, Abu Dhabi’s largest travel market. Total passengers increased 6% over February 2008, while aircraft movements increased 4.9%.

The Indian subcontinent saw strong growth due to improved load factors, increased weekly service frequencies, and competitive prices. Four airlines currently operate to seven destinations in India. With an increase of 36.4% in passengers for the month, India was a key driver of passenger growth, while passenger numbers for Pakistan increased 14.6%.

Abu Dhabi’s third largest international market for the month was the UK, with an increase of 5.1% in passenger traffic.

The chairman and managing director of ADAC, Khalifa al Mazrouei says that much of the success is due to having a clear plan in place.

“The key is to have a proper masterplan that forecasts growth into the future. When it comes to increments of capacity you build for shorter periods of 10-15 years, you don’t build for the unknown. This helps you provide capacity just before demand arrives, like Terminal 3 for example,” he says.

Terminal 3 is the new home for Etihad – the UAE’s national carrier – which has its home base in Abu Dhabi. The airline recorded a 5% increase in traffic and is the main driver of traffic through the airport, including to the Kingdom of Saudi Arabia, which has become the fourth largest market for the airport. In February alone Saudi Arabia experienced a 10.2% increase in passenger numbers.

Etihad’s phased move into Terminal 3 was successfully completed during March with the transfer of the final four long-haul services from Terminal 1 into the new passenger building. A total of 31 destinations now operate from the new Terminal 3.

Etihad Airways’ chief executive, James Hogan says: “Our customers now

benefit hugely from the significantly enhanced facilities. It also means that the airport is now better equipped to meet the future expansion plans of the national airline of the UAE.

“The transfer of flights is supported by Etihad’s new passenger facilities, which include new premium lounges as well as improved check-in areas, including a designated check-in zone for our premium customers.”

Peter Hoslin, head of airline marketing at ADAC spoke at the February Aviation Outlook conference in Abu Dhabi and said that the airport was determined to ensure it remains an effective and efficient hub, which it is achieving through government support as well as the support of the people of Abu Dhabi.

The new airport project is designed to increase capacity to more than 20 million passengers per year. A second new runway and a third terminal have already been completed as part of this project.

A second new Air Traffic Control (ATC) is underway and the Midfield Terminal Complex, also known as the new airport, will complete the redevelopment plan in few years time, allowing an increase to 25 million.

“The changes in Abu Dhabi over the last 60 years has been remarkable,” Hoslin says. “The country has moved from a delightful backwater into a vibrant city with great economic power and influence. But we are still at the beginning of the development for the 2030 plan.”

ADAC’s plans don’t stop with the international airport. The company has responsibility for Al Ain Airport, which is the region’s only secondary airport that focuses on regional aircraft and is also aiming at attracting low-cost carriers to the western area.

“It is an hour from Al Ain to Abu Dhabi or Dubai. It is an ideal destination and the facilities will work for regional and low-cost carriers looking for an alternative,” Hoslin says.

The airport will also be the home to the aerospace cluster and MRO facilities being centred in the emirate.

ADAC is also planning the development of Al Bateen military base as the new Abu Dhabi City Airport, primarily for the rapidly-growing business aviation market. It is also responsible for the regional fields in places like the Desert Islands.



Peter Hoslin: “We are still at the beginning of the development for the 2030 plan.”

Mother Country

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Abu Dhabi is already known as a large conference destination and is aiming to bring major events to the emirate – from conferences to Formula One motor racing.

“Business tourism is our mainstay and, as it is also the most resilient segment of the industry, we are quite fortunate to be in this position in these challenging times,” Franklin says. “We have our own Business Tourism division at ADTA, which acts as a convention bureau and extends significant assistance to those wishing to bring major events and conferences here – including assistance with government liaison. We have secured the World Ophthalmology Congress meeting for 2012, which will bring 12,000 delegates here, and we are in talks with other leading medical associations.”

ADTA intends to carry on promoting Abu Dhabi as a tourist destination already with its own brand and slogan ‘Travellers Welcome’. The tourist authority is already recognisable at major travel trade fairs around the world, and will be attending 17 trade fairs across 11 countries this year, including the Arabian Travel Market in Dubai this month.

Any final words from His Excellency to promote Abu Dhabi and of course sway my mother?

“Abu Dhabi has taken a conscious decision to base its evolution on the ethos of respect for its heritage, traditions and environment and we will hold firmly to that.

“These are values which characterise the emirate and its people. There will be progress, but it will be measured, sustainable, respectful and will deliver a destination aimed at enriching lives, those of the people who live here, and those who come to visit to engage with our culture and allow us to engage with theirs.”

What do you think mum?
A trip to Abu Dhabi this year?



Every year is a challenge... This is a period of economic crisis – but it is also a time of opportunity.

JAMES HOGAN

Simply, make

James Hogan has never been one to be accused of a lack of ambition and, as many in the aviation world tremble at the effect of the global meltdown, he is flexing his muscles.

“We keep hearing about a time of change or a time of challenge, but having been in the business since 1975 I sometimes wonder what the difference is. Every year is a challenge. Airports and airlines work through the storms and come through stronger.”

Now, as chief executive officer of the rapidly-expanding Etihad Airways, the Abu Dhabi-based national carrier for the UAE, Hogan has one clear mission – to make Etihad the best airline in the world.

“That’s not the biggest airline in the world. But the best,” Hogan says. “This is a period of economic crisis – but it is also a time of opportunity. In 2008 we inducted nine new aircraft into our fleet and opened more routes and gained a place as the fastest start-up in the history of aviation business.”

Remarkable story

The Etihad growth story is a remarkable one. “The pressure this puts on our management team has been quite incredible,” Hogan says. “Establishing a presence, working on the bilateral agreements and just keeping track of what we do is really testing. What has been pleasing has been the ability of our people to deal with these issues.”

Etihad went through an intense planning phase during 2006/7 for a commercial platform that led to the world record-breaking \$43 billion order at

THE MRO PROVIDER

How GAMCO was reborn as ADAT, and heralded the

The acronym ADAT may be relatively new but the rebirth of Abu Dhabi Aircraft Technologies from its weary GAMCO heritage symbolises the whole new focus that Abu Dhabi has for its aerospace businesses.

For many years GAMCO – the Gulf Aircraft Maintenance Company – was virtually a lone MRO facility among the Gulf States. Owned by Gulf Air in its days as the co-owned national carrier of Bahrain, Abu Dhabi, Qatar and Oman, it provided maintenance for the airline and offered some additional third-party services.

But with all but Bahrain withdrawing from the Gulf Air consortium, the maintenance company was allowed to fly solo and fight against stiff international competition to grab third-party work.

And then came Mubadala. The business development and investment company acts as a catalyst to realise Abu Dhabi’s ambition to diversify and transform its economy by building businesses and clusters of expertise. Aerospace was right in the sights of the new corporation and GAMCO was a classic opportunity.

Enter John Byers to the Mubadala management team as senior aviation adviser with responsibility for developing Mubadala’s 10-year strategic road map for its aerospace and technology unit.

Byers had previously served in Air New Zealand Engineering Services (ANZES) for more than 20 years, where he had been responsible for securing all third-party business undertaken by ANZES including aircraft, aero-engine and industrial gas turbine maintenance, as well as aircraft total fleet management.

With Air New Zealand retrenching from its third-party work to focus on its core airline activities, Byers’s departure from his national airline proved to be serendipitous for the newly-formed Mubadala, which announced plans to transform GAMCO into ADAT.

Byers was unveiled as the CEO with a clear brief – make ADAT the foremost independent MRO provider in the Middle East and a major player in India and Europe.

Byers was optimistic: “Growth is being driven by rapid UAE and Middle

our challenge is to Etihad the best...



Farnborough last year. “Now we have a clear road map – what we are looking at is how do we take advantage of Abu Dhabi as a crossroads of the world. Our business has been focused on how we build that road map.”

The dynamic Australian was appointed CEO of Etihad Airways in October 2006, bringing more than 25 years of travel industry expertise to the airline. He has a first-class reputation for airline re-branding and repositioning skills that has seen him challenge accepted industry norms, and build the reputations of the airlines he has worked with.

He moved to the UAE carrier from Gulf Air, where he was responsible for the Project Falcon programme, repositioning the business on a commercial platform.

Prior to joining Gulf Air in 2002, Hogan was chief executive of the Tesna consortium, created with the aim of acquiring Ansett Airlines from administration. Before that he held a number of senior operational and commercial positions

within the airline industry including VP, marketing & sales, Europe, Middle East and Africa at Hertz; worldwide sales director at the Granada Group and chief operating officer at bmi British Midland, as well as being a non executive director of tobacco firm Gallaher Plc.

A big draw

His reputation makes him a big draw and it was no surprise that he was the headline act in this year’s Aviation Outlook conference held in Abu Dhabi in March, where he bounded on to the stage with enthusiasm. But if the audience were expecting a rose-tinted display, they would be disappointed. Hogan is also a realist.

“No business is immune from this economic crisis,” he told delegates. “Aircraft are being grounded by airlines that have been the stars in our industry. Low-cost winners have made losses and value has been wiped away. IATA has warned quite clearly that this will be a tough time.

“On the back of the economic crisis there will

be cut-backs that affect travel. T&E spending will be slashed, families are being more cautious and we have seen a significant drop in cargo. Oil prices may have dropped but the pressure of demand weighs on all.”

But amongst his realism there are lights of hope that Hogan pins on the strategy being adopted by the Abu Dhabi government.

“This is an investment that is a catalyst for growth,” he says. “The tourism initiatives are key to this – 80,000 hotel rooms, Warner Brothers, The Guggenheim, Formula One motor racing and so on.

“We map the airline alongside the commercial opportunity. By 2020 we will carry 100 million passengers to 100 destinations on 150 aircraft. We have to have the platform to carry that many passengers and a framework to manage 27,000 employees. The key is to move into profitability and to stay sustainable.”

Hogan sees the need to stay focused during 2009. “If you cut do you slow down? If you manage costs do you meet key milestones? We are being bullish and investing in connectivity with new routes like Melbourne, Istanbul, Larnaca, Hyderabad and Athens. We are working with Abu Dhabi to build progressively.”

At the heart of the airline’s plans is its relationship with Abu Dhabi Airport.

“Terminal 3 is a great investment by ADAC,” says Hogan. “The midfield terminal is even more outstanding. With a capacity of 10 million we have the ability to serve our customers with world class facilities.”

start of a remarkable transformation

East fleet expansions, with an addressable market of some US \$4.5 billion,” he told reporters.

Eighteen months into the plan and Byers is still enthusiastic.

“It has been a remarkable transformation,” he says. “The investment is happening and the business is unrecognisable from its GAMCO days.

“We had to get away from the old Gulf Air link and the name change reflected the new Abu Dhabi ownership and a new focus.

“We needed to change our

business model from being a labour-intensive aircraft maintenance centre into a far greater knowledge-based business. Rather than worrying about repairing an aeroplane we wanted to focus on the value added opportunities such as Total Care or Total Fleet Management.”

Just a few kilometers up the runway at Abu Dhabi’s International Airport an opportunity was developing. Etihad was embarking upon its massive expansion, which allowed ADAT the chance to move up the value chain with support for the

engine overhaul as well as the lower value airframe work.

The result was a \$500m, five-year maintenance pact between the two Abu Dhabi businesses and, as part of the deal, ADAT built a dedicated single bay line and light maintenance hangar for the airline.

As the Etihad hangar neared completion last summer, ADAT announced the construction of a new 96,000 square foot hangar, which is set to increase the company’s working capacity and business capabilities by 35% once it is completed next year.



John Byers: “The business is unrecognisable from its GAMCO days.”

THE MANUFACTURER



Al Sabr: Can be deployed quickly.

Al Sabr programme paves the way for UAVs

Abu Dhabi's commitment to developing unmanned aerial vehicles (UAV) has progressed dramatically through the formation of ADASI – the Abu Dhabi Autonomous System Investment company which is a subsidiary of Tawazun, the investment arm of the emirate's offset programme bureau.

At the heart of the development is the Al Sabr programme, which was on display at the IDEX show at Abu Dhabi's national exhibition centre in February.

Al Sabr is an intelligence surveillance and reconnaissance system based on a vertical take-off and landing UAV, which is now in operation with the UAE armed forces.

Al Sabr is built on the platform of the Schiebel Camcopter S100 but has been greatly enhanced by additional systems developed and integrated in Abu Dhabi by ADASI.

The system includes the UAV itself, which can be adapted for a number of different payloads; a ground control system, which includes sophisticated software to provide specific advanced functionality for designated mission requirements and a self-contained shelter to allow the operators to work in harsh desert conditions. A typical unit would comprise of four UAVs, two transport vehicles and the ground control system.

Al Sabr can be deployed quickly – within 45 minutes according to ADASI's Martin Vaupotic – and operate for six hours at an altitude of 12,000 feet. It is powered by a 55hp rotary engine using 100LL avgas.

On display at IDEX were several of the 60-plus helicopter aerial platforms showing the FLIR capability. Inside the ground control station, Vaupotic demonstrated how the system can be flown manually, autonomously or computer assisted.

In the left seat the pilot has normal flight display instruments with a second screen showing the FLIR display. The right seat is taken by the payload operator, who can also take control of the aerial platform to enable it to lock into a particular target for surveillance, for example.

"This is a great system," Vaupotic says, "it can hover autonomously and it can land comfortably with 15-degree roll on shipboard applications."

Training is a key part of the ADASI programme, which it is running in conjunction with the UAE armed forces.

"It takes six to nine weeks to train a pilot or technician," says Vaupotic. "It is an advantage if they have a technical background."

An autonomous system is one that is unmanned and remotely controlled but that enjoys some degree of self-activation. "It incorporates input from the user or from the environment," says ADASI's aero structure specialist Vladimir Tufegdzcic.



Royal Jet chief Shane O'Hare.

Below: A Royal Jet G350 on the ramp at Dubai.



Royal Jet is still on the up

As market leaders in the business aviation sector across the Middle East, Abu Dhabi VIP charter operator Royal Jet knows better than most the real impact the global financial crisis is having on private charter business.

"It would be wrong to say we are not affected in this part of the world, this is a global recession and there is nowhere to hide – but we have not been affected in the same way that the United States or Europe has been," says Shane O'Hare CEO of Royal Jet.

"We have experienced very strong growth with a GDP of around 6-7% so there has been a lot of pent up demand. Supply has not been keeping up with demand so, because of that, the downturn has not been so dramatic."

Royal Jet achieved both its revenue and profit targets in the fourth quarter of 2008 and, while others in the industry have been wringing their hands and reducing prices, the world's largest fleet operator of the Boeing Business Jet (BBJ) is still meeting expectations in the first quarter.

A lot of Royal Jet's confidence is based on its market segmentation. Broadly the operator works closely with Abu Dhabi's Presidential Flight (formerly Amiri flight) and caters for top government officials and heads of state in the region and in Africa. With its fleet of six BBJs, Royal Jet sees more than a quarter of its business coming from VVIPs, another 13% from Medevac and barely 20% from the corporate sector.

"We have just visited Europe and the general feeling is that business is down around 30-50%," O'Hare says. "The core market there is corporate business with small to mid-size jets predominating. Those relying on corporate business are seeing a reduction of 50%. Because relatively little of our business is in the corporate sector we have been protected."

Indeed, O'Hare is seeing positives from the global slowdown. As the world's largest operator of BBJs, he is aware of the need to keep the aircraft fresh for his high net worth customers.

"We had already decided to embark on a refurbishment programme. Like the airlines, you cannot stand still. There are developments in the world of cabin entertainment and connectivity, plus you cannot afford to let the interiors look tired. We estimate that you need a full cabin upgrade every five years at least. This is a major investment for us at around \$15 million per

aircraft – about the equivalent of five A330 refurbishments for the airlines.

"Of course it also takes an aircraft out of the fleet while it is being refurbished. But what we have seen is that there is more capacity at the completions centres and so we are able to move the programme through much quicker. It used to take 12 months to get a spot in a centre, now we have three or four competing."

Other advantages O'Hare sees in the availability and cost of aircraft both new and used.

"A year ago you would see a used BBJ at around \$75 million. Now it is \$60 to \$65 million and there is still room for further reductions. The difficulty is finance. Where as we used to put 10% equity in the aircraft, banks are now asking for 40-60% equity. Lending conditions are much tougher. We are waiting. There will be a crossover when the prices are still down and the lending criteria changes."

One of Royal Jet's biggest concerns is the growing grey market, where jet owners illegally allow their aircraft to be used for private charter. "This is an issue that MEBAAC should be addressing, along with the various civil aviation authorities. It is illegal. It is unsafe and it is stunting the growth of a healthy industry," says O'Hare.

O'Hare believes that many owners act in ignorance and that there should be greater education for customers too.

He has also seen a growth in the number of owners who are switching to outsourcing management of their aircraft. "Part of a cost review makes them realise how by not owning and operating themselves can save money," he says.

O'Hare believes Royal Jet will continue its successful growth. It is increasing its activities in Saudi Arabia and growing its business in Africa with head-of-state and government transport missions. It also sees a future for cooperation with European operators.

Royal Jet is also continuing its march from Abu Dhabi. In March it opened its brokerage business in Dubai and while the successful FBO will continue at Abu Dhabi International Airport, the company is also planning an operation for the projected City Airport at the current Al Bateen air base on Abu Dhabi airport at the heart of the capital.



Paul Hooper: "We have a clear vision."

Abu Dhabi takes a fresh approach

With the anticipated growth in air transport and a recognised need to have a comprehensive integrated travel system, Abu Dhabi has taken the unusual step of throwing away its old regulatory authorities and starting again.

"Effectively, it all began with a clean sheet of paper," says economist Paul Hooper, director of the new Department of Transport Aviation Directorate.

"We were given clear ideas by the Abu Dhabi government of what we have to achieve," Hooper says. "Aviation is seen as a core industry for diversification. The flow-on effects have been recognised and the peripheral activities, like business aviation, general aviation and maintenance, repair and overhaul operations, have further employment opportunities."

With Etihad and Abu Dhabi Airport Company (ADAC) as the key pillars to this growth, the Government recognised it needed to take a new approach to monitor and represent the people's interest in the industry. "It passed the law to establish the Department of Transport to oversee and guarantee efficiency of the sector. That's quite clear. Guaranteee."

"We have a clear vision of where we are going and we have the legal foundation," says Hooper.

The responsibility for technical safety stays with General Civil Aviation Authority (GCAA) but the DoT will ensure that there is a safety management system in place. "Broadly, we need to understand that the operators in Abu Dhabi have a safety management system. We are promoting the establishment of a federal accident investigation unit."

As part of the representation of the people responsibilities, the DoT has responsibility for ensuring there is a financial fitness. "We want to protect the public interest against the possibility of Abu Dhabi-based airline failure," says Hooper.

Potential start-ups wanting an AOC in the emirate have to prove they have the financial clout and knowledge to survive. "We have had a few private individuals coming through wanting to start an airline who haven't realised you can't just fly the routes you want, nor how much it costs. Our job is to make sure that the public interest is protected," says Hooper.

A major element of the new regulator's activities is to work with the development planners to ensure that future aviation projects are protected.



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AIR CARGO



The C-17's ability to get into unimproved airfields makes it potentially crucial to getting relief supplies to the scene of natural disasters. Both Qatar and the UAE have highlighted this use for their aircraft.

GULF C-CHANGE GIVES AID A LIFT

Major improvements to two Gulf nations' air transport capability are on the way, with both opting for packages of Boeing C-17 Globemaster IIIs and Lockheed Martin C-130J Super Hercules.

REPORT **ALAN DRON**

At a stroke, the purchases of C-17s and C-130Js by Qatar and the United Arab Emirates give both countries an airlift capacity that many larger air arms would envy.

Traditionally, Gulf nations have paid more attention to front-line combat aircraft rather than transport assets.

The obvious exception is Saudi Arabia, whose large land area and relative lack of surface infrastructure made the purchase in the 1960s and 70s of large numbers of C-130s a logical

choice. It still operates more than 40 C-130s in various roles, including air-to-air refuelling.

Apart from Saudi, only the UAE has shown much previous interest in building up a transport force. It already has a fleet of five C-130Hs and a single civilianised L100 example. Additionally, it has a light transport element of seven CN-235M-100s.

In 2006 the country reportedly ordered five Antonov AN-32 light transports, which have excellent 'hot-and-high' characteristics and would be particularly suitable for the 40°+C

summer temperatures that prevail in the Gulf, but little has been heard of this to date.

It also gave an indication of its ambitions with its 2008 purchase of three Airbus A330MRTT (Multi-Role Transport Tankers), which will greatly extend the range of UAE Air Force aircraft through air-to-air refuelling.

The Qatar Emiri Air Force, in contrast, had no transport capability at all before its purchase of C-17s and C-130Js, apart from those passenger aircraft in its Amiri Flight.

Continued
on Page 54

CONTRACT DETAILS

Boeing has always formally declined to reveal contract numbers, but two Qatari C-17s are expected to be delivered in August. In April, senior Qatari officials were reported as saying two options would be firmed up by the end of 2009.

The UAE's decision to buy four C-17s and 12 C-130Js was announced at Abu Dhabi's IDEX defence exhibition in February – taking aback the manufacturers, as firm contracts had not yet been signed.

Boeing says C-17 delivery dates have not yet been finalised for the UAE but the country wants them as soon as possible. Lockheed Martin anticipates deliveries of the UAE's C-130Js will take place over a three-year period beginning in 2012.

The C-130Js for both nations will be the stretched-fuselage C-130J-30 variant.

Both C-17 and C-130J orders are direct commercial sales, although some support



Several Middle East nations including Saudi Arabia (above) already operate earlier C-130 variants.

equipment is the subject of government-to-government agreements.

The Qatari and Emirati C-17s will be able to take advantage of Boeing's Global Support Programme, which allows C-17 operators access to a pool of spares available to the entire worldwide fleet of 200-plus aircraft.

Training on the aircraft will initially take place in the US. Boeing is studying the possibility of undertaking training in the Middle East but nothing has yet been decided.

Commenting on Qatar's purchase before news of the UAE's order broke at IDEX, Andrew Brookes, aerospace analyst at London's International Institute for Strategic Studies, says there are probably two reasons for Doha's decision to take the aircraft. While undoubtedly a highly capable aircraft – "If you want to move things fast, that's the boy" – he believes that Qatar's 2008 order, at a time when Boeing was struggling to find new orders to keep the C-17 production line running, was probably partly politically motivated. "I'm assuming it's partly to help out Mr Boeing and doubtless it will have been highly appreciated in Washington DC and Long Beach."

Both Qatar and the UAE have specifically stated their intention to use their C-17s for humanitarian missions.

Qatar has previously used a US Air Force C-17 to transport a complete mobile hospital to help survivors of the severe 2005 earthquake that struck northwest Pakistan. Indeed, there have been reports that the difficulties encountered in moving relief supplies to the scene of that disaster spurred the emirate to look at developing a transport capability that could get into small, rough airstrips close to the scene of any future crisis.

The UAE has been a regular participant in United Nations peacekeeping missions over the past two decades, with units dispatched to Somalia, Kosovo, Lebanon and Afghanistan.

"The UAE has a large military that do a lot of things in a lot of places," says Tommy Duneheew, Boeing Integrated Defense Systems' international C-17 programme manager. "These aircraft give their military the ability to be anywhere in the world in 24 hours, with the cargo they require."

Give something back

Both nations "are really looking to give something back to the world community", says Duneheew. "That's genuinely their desire, although they will also use the aircraft for their own sovereign use."

Duneheew says the sale of C-17s to the two Gulf nations did not come out of the blue: "We've been looking at this market for 10 years."

Both countries will receive the same C-17 configuration as that supplied to the US Air Force: "Every couple of years, the US Air Force does upgrades, so both countries will get the latest and best aircraft on the production line."

He admits that Qatar was initially looking at other types to fulfil its transport needs. Like most people, the Qataris perceived the C-17 as "a big, expensive aircraft". Boeing was able to

demonstrate, he says, that two C-17s could do the job of, for example, four Airbus A400Ms and that the fewer aircraft required would more than offset any difference in unit costs. Other benefits included flying at commercial aircraft altitudes, at airways speeds.

Duneheew says he passed on the phone numbers of his contacts among other air forces that operate C-17s – Australia, Canada and the UK – and suggested: "Call these customers" so the Qataris could get their opinions of the aircraft.

Asked if the Qatari and Emirati purchases foreshadowed the emergence of a joint transport force among the six nations that make up the Gulf Cooperation Council – Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE – Duneheew says that while he does not doubt the two new members of the C-17 club will make the aircraft available to their GCC partners if requested, no formal GCC pooling arrangement is in operation.

That may change. Duneheew's colleague Jeff Johnson says that Boeing is currently talking "to virtually the entire GCC, who are all very interested after the Qatar and UAE orders".

Johnson, vice-president business development for the Middle East, says that the US military presence in the Arabian Gulf means that Arab nations can also see the benefits of commonality in operating the same transport equipment as the US. "Clearly, that helps us." The aircraft's long range, which gives it the capability of flying non-stop to Europe or large swathes of Asia, is also a factor.

Boeing has previously listed Kuwait, Oman and Saudi Arabia as potential customers for the C-17. Saudi is perhaps the most obvious candidate, with its large fleet of ageing C-130s.

Traditionally, the problem small nations meet when fielding large, sophisticated aircraft such as the C-17 has been maintaining them once they are operational, says Alastair Campbell, head of

Other regional Boeing prospects

Boeing's Integrated Defense Systems division is focusing strongly on the Middle East for future growth, says Jeff Johnson, vice-president, business development Middle East.

Despite the recent sharp drop in oil prices, which may feed through to reduced government budgets, Johnson says that the continuing threat level in the region means he detects no slowdown in defence activity.

Boeing is keen to promote its CH-47 Chinook medium-lift helicopter in the region, particularly as an in-theatre partner to the C-17. The Globemaster would fly supplies into airfields as close as possible to where they are needed, with Chinooks then taking the loads on the last leg of their journey.

He points out that Egypt and Morocco already fly earlier versions of the CH-47, as does Libya, which is coming in from the cold after many years of animosity with the US.

Similarly, Johnson believes further orders – either upgrades or additional aircraft – will be forthcoming from the region for the AH-64 Apache combat helicopter, which is fielded by Egypt, Kuwait and the UAE.

Boeing chose IDEX as the venue to publicise its Vigilare integrated air defence command and control system. Being developed for Australia, Vigilare automates the fusion and distribution of information between multiple platforms. In Australia's case, these include the Royal Australian Air Force's F/A-18 Classic and Super Hornet fighters, Wedgetail airborne early warning and control platforms, AP-3C Orion maritime patrol aircraft and its indigenous Jindalee over-the-horizon radar network.

the UK's Royal United Services Institute's satellite office in Qatar.

"My assumption is that they will have some sort of deal with the Americans at Al Udeid air base [in Qatar] to service and maintain them as part of their rent. That would sort out that problem."

Campbell says Qatar is keen to step on to the world stage and be seen as a player of significance. Using the C-17s for humanitarian efforts in the event of natural disasters around the world achieves that aim in a way that does not tread on anyone's toes, he says. The same can be said of UN missions. Qatar's armed forces, while small, are professional and keen to take part in more peacekeeping operations in future.

While Qatar and the UAE's purchases of C-17s have tended to steal the limelight, Lockheed Martin is quietly delighted with its success in selling C-130s to both and believes more orders will be forthcoming from the region.

Jim Grant, Lockheed Martin's vice-president, air mobility, notes that the US Defense Security Cooperation Agency notified Congress last July of a possible foreign military sale to Iraq of six C-130J-30s worth around \$1.5 billion and that "most Middle East countries fly some version of the C-130.

Increased benefits

"Our belief is that the majority of these will modernise to the C-130J, to take advantage of its increased benefits of propulsion, range and overall capability."

Saudi Arabia, for example, "has a long, successful history with the C-130 and we would clearly expect that they would modernise their Hercules fleet with some Js and operate a mixed fleet for some years. They have some very old aircraft: that said, they're in very good condition."

While not referring specifically to the C-130Js latest customers' uses for the aircraft, he acknowledges that "we're seeing a greater participation in humanitarian flights around the world. Nations really like to do that and they earn a lot of respect from the international community."

There is also a growing general appreciation of the flexibility bestowed by airlift capability across a wide range of civil and military tasks, he says.

As a new C-130 customer, Qatar will receive a full support package of ground support, training and spares. The UAE, whose existing C-130s "have been maintained extremely well but are getting on a bit" will receive an integrated logistics package that will include a 'weapon systems trainer' – effectively a Level D simulator. "You go straight from the simulator to a check flight," explains Grant.

The fate of the UAE's existing C-130E/H and L100 fleet will not be decided until the C-130Js are in place, he adds.

Background to the C-17

The C-17 Globemaster III is a high-wing, four-engine, T-tailed military-transport aircraft.

It has staked a claim to being one of the world's most capable airlifters, boasting a combination of large payload, good range and ability to use relatively short, unprepared airstrips.

Its popularity can be demonstrated by the experience of the UK Royal Air Force, which began by leasing four C-17s from Boeing, eventually buying them outright and adding a further two. A major reason for this was that the aircraft were so in demand – both within the UK and with NATO allies, who repeatedly asked for the aircraft to help move outsize items of equipment – that they were operating at 300 per cent of the use permitted by the terms of the operating lease.

Its origins can clearly be seen in the McDonnell Douglas YC-14, a contender for the US Air Force's Advanced Medium STOL Transport (AMST) requirement of the 1970s. AMST was aimed at finding a replacement for the C-130 Hercules tactical transport. The YC-14 strongly resembled a smaller C-17, the main difference being the former's unswept wing. In the event, the US Air Force decided to modernise its C-130s and the AMST project was shelved in 1979. Ironically, the C-X programme, aimed at finding a new strategic airlifter and which eventually resulted in the C-17, began almost immediately thereafter. The C-17 first flew in September 1991.

Despite the C-17's undoubted qualities, Boeing has until recently been scrabbling to find enough orders to keep its production line open. For some time, the US Air Force's fleet was capped at 190 examples and export orders from Canada (4), Australia (4), UK (6), NATO (3) and Qatar (2), while very welcome, barely sufficed to keep the line ticking over.

However, February's long-awaited US Air Force \$2.95 billion order for an extra 15 examples takes the programme through to August 2010, with the UAE's four aircraft further extending that.

US Secretary of Defense Robert Gates' proposals for the first defence budget of the Obama presidency signalled no further US Air Force C-17 orders, but this may change as the proposals wend their way through Congress. Additionally, the current major delays surrounding the rival Airbus A400M military transport may encourage prospective customers for the latter aircraft to switch allegiance to the C-17.



The expulsion of aid agencies from Sudan by the country's president was the latest blow to the international humanitarian aid effort to help the millions of people in the Darfur region. For air freight operators charged with flying in aid, it was just another challenge that needed to be overcome. Add that to the risk of being shot at or finding the remote African landing strip occupied by zebra. To address these challenges, air operators, aid agencies and regulatory authorities gathered in Abu Dhabi for the first international conference on safety in humanitarian air operations. Ralph Ahearne was there.

Summit faces up to the challenge of relief

The Twin Otter was operating a Red Cross emergency flight in Angola when it was hit by a man-portable missile. It lost an engine but the pilot managed to get the aircraft back to base safely.

Meanwhile, to the North in Sudan, a Red Cross Hercules was taxiing when it triggered an anti-tank mine. Two other Red Cross aircraft were hijacked.

These were just some of the incidents to hit Red Cross aircraft between 1990 and 1999 in operations that covered the world's hotspots, from Mozambique to Bosnia to Afghanistan.

And that is just the story from one aid agency contributing to what is a world-spanning air armada of aircraft operating humanitarian relief flights.

To illustrate the scale of the operations, the World Food Programme (WFP) has an average of some 100 flights operating in its name on any day of the year.

By their very nature, the operations are in some of the most dangerous zones in the world, afflicted by war or natural disaster. To address some of the safety issues faced by operators, the WFP organised the 1st Global Aviation Safety Conference for Humanitarian Air Operations.

Impressive number

Held in Abu Dhabi, it brought together more than 200 people representing air operators, aid agencies and regulatory authorities. It was sponsored by Abu Dhabi-based Maximus Air Cargo, which has clocked up an impressive number of hours operating humanitarian air missions, most notably to Sudan.

The experience of the Red Cross in the 1990s led it to develop its own enhanced safety and risk management procedures that helped to "significantly reduce" the number of accidents due to acts of war, Michel Schaffner, head of air operations at the International Committee for the Red Cross told delegates.

The organisation now only uses twin-engine aircraft and insists that every flight is operated by two pilots, he says. Crew are trained to fly

AID 'AT COST' CALL TO INDUSTRY



Buhazza: Efficiency counts.

Air aid operator Maximus Air Cargo has called on the industry to deliver aid "at cost".

The call came from Fathi Hilal Buhazza, president and chief executive who was speaking to the 1st Global Aviation Safety Conference for Humanitarian Air Operations.

He said air cargo operators and suppliers should work together in an "at cost" partnership designed to cut the cost of delivering aid and to increase relief mileage.

Buhazza said that Maximus is the exclusive air relief partner for the UAE Red Crescent, providing all its services at cost. He insisted that humanitarian missions – even without a profit – are good for business. "The more hours you do, the more efficient you become," he said.

"What we are proposing is meaningful. We are not going to make a loss, so it is sustainable. Ultimately, the successful implementation and further spread of this approach will help those involved to attract even better talent and make their organisations proud.

"I care because I would like other people in their situation to care about me. If there is no mercy in this world, life is not worth it."

deliberately high and to follow special steep spiral take-offs and approaches to airfields.

Crew training was one emphasis at the two-day event: technology and innovation was another.

One company – Naturelink Aviation – is finding a profitable niche in modifying aircraft to adapt them for operations in the ultra demanding environments encountered by aircraft on air missions.

Ernest Claassen, chief safety officer for Naturelink, outlined how the firm had equipped an Embraer EMB120 Brasilia aircraft with an anti-missile system capable of withstanding an attack by a first or second generation man-portable missile.

"It does not give protection against third or fourth generation missiles, but the current proliferation of these weapons are mainly first and second generation," he says.

Having developed the system in partnership with Saab Aviation, a request from a United Nations Agency for such a system was rapidly met for operations in Iraq.

Claassen says that the autonomous system

consists of a detection component and pyrophoric flares that, in the event of attack, are jettisoned in bags that are ripped open in the airflow before igniting. The system is activated prior to take-off, switched off at cruise altitude and then switched on again at final approach.

Delivering the humanitarian mission takes almost every kind of aircraft imaginable, with a critical role being played by rotary aircraft. However, their ability to operate in remote areas without the need for a runway can be offset by reduced "in-field flying time" because of the need to return to base to re-fuel. Kam Seng Chee, base manager with GM Helicopter says: "In our operations, fuel supply and quality of fuel are the main challenges. Fuel quality is a problem when refuelling at remote bases. Or helicopters must return to airports to refuel which limits their time in the field."

GM recorded a three-fold increase in distribution efficiency during operations in Myanmar by deploying a Field Fuel Management System (FFMS), a simple portable "bladder" fuel dump that can be set up anywhere.

The FFMS enables operators to gain control



"The current proliferation of these weapons are mainly first and second generation."
Ernest Claassen, chief safety officer for Naturelink.

The UN requirement was like "dropping a bomb" on his firm.
Warren Feschuk, CMC vice president for international operations,

"For us, air transport is very important and in some areas of the world it is the only way to deliver food to people."
Pierre Carrasse, head of the WFP Aviation Service

The trend towards the criminalisation of aviation accidents "could be detrimental to aviation safety," Nick Sabatini of the Flight Safety Foundation

over fuel quality and to keep helicopters operating in the field for longer.

Humanitarian air operations have become a major specialist branch of aviation in their own right. Ever since hundreds of pilots proved – against much expert opinion – that the Berlin Airlift could work, humanitarian air operations have grown.

The WFP is at the forefront of the airborne aid effort and has developed a powerful aviation management capacity on the back of years of experience, says Pierre Carrasse, head of the WFP Aviation Service.

The WFP's current deployment of aircraft – all on charter – includes 28 in Sudan (prior to the suspension of aid operations), six in Chad and three in Afghanistan.

"For us, air transport is very important and in some areas of the world it is the only way to deliver food to people," said Carrasse. "In many cases there is no infrastructure and the roads will be closed in the rainy season.

"Sudan is the largest country in Africa but in

the south of the country there are almost no tarmac roads, so we have to use air transport."

The WFP's workload grew significantly last year, with total food consignments delivered up from 3.3 million tonnes in 2007 to hit an expected four million tonnes in 2008, says Carrasse. With a budget of \$2.9 million and more than 9,000 staff world-wide, it delivered desperately-needed food to 44 million people.

Impressive number

Its world-spanning logistics effort is designed to serve three strategic goals: short-term emergency operations in response to natural disasters; protracted relief and recovery operations where an emergency persists, sometimes for years; and development programmes such as the provision of food to schools to encourage children to attend.

While the Sudan area of operations has hit new turbulence with the suspension of aid operations, other areas are showing signs of improvement on the safety front, according to Jarmo Korhonen,

the International Civil Aviation Organisation's (ICAO) team leader in creating a civil aviation authority in Afghanistan.

Air operations to the country are becoming less problematic as ICAO oversees the transition to "safety, regularity and efficiency," he says.

Delegates also heard from one speaker who warned that the humanitarian aid sector faced threats other than those posed by operating in inherently dangerous regions.

The trend towards the criminalisation of aviation accidents "could be detrimental to aviation safety," believes Nick Sabatini of the Flight Safety Foundation. He pointed to the growing trend towards criminal action against pilots and operators involved in accidents, including in countries such as France and the USA.

"In many countries you could be prosecuted as criminals," he says. "If you think it can't happen to you, think again."

The answer, he believes, is for operators to use the "sharpest tool" in the safety tool box – Safety Management Systems (SMS).

Steve Nichols reports on how the Middle East has become a rising star in the satellite industry – and the adventure is only just beginning...

WATCH THIS SPACE

The Middle East was the birthplace of astronomy, with many of the stars in the sky having their names derived from the original Arabic, such as Aldebaran, Deneb and Altair. Islam advised Muslims to find ways of using the stars, with the Qur'an saying: "And it is He who ordained the stars for you that you may be guided thereby in the darkness of the land and the sea."

So it is no great surprise that the Arabic nations in the area are once again looking skyward and have a very active space industry.

The UAE, Saudi Arabia, Egypt, Algeria and Iran all have satellite industries and the Middle East could be on the verge of launching its own space tourist business too.

Dubai is on course to join the space race with the launch of its Dubai Sat-1 some time this year.

The UAE's first earth observation satellite has been developed by SatrecI, in South Korea, with in depth participation of UAE engineers from the Emirates Institution for Advanced Science and Technology (EIAST).

It will be launched into a low-earth, sun-synchronous orbit at an altitude of 680km. DubaiSat-1 will weigh less than 200kg, including a 50kg payload mass and with an average power consumption of less than 150 Watts.

The remote-sensing satellite was designed for a minimum lifetime of five years' in-orbit operation and will provide the UAE with a valuable source of information to support the country's development plans.

Its data will be used for more infrastructure development, long-term urban planning, the management of natural

Dubai Sat-1 will be able to provide images such as this once launched

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disasters, scientific and space research and development.

Dubai Sat-1 will be launched into low-earth orbit on a Dnepr rocket by the Moscow-based launching company, International Space Company (ISC) Kosmotras.

Images will then be transmitted to a ground station, which is currently being built and tested in Dubai. This has been used to receive images from NASA's Aqua satellite as part of testing.

Dubai Sat-1's development team is already working on finalising designs for DubaiSat-2, with a long-term aim of creating the UAE's first constellation of satellites.

EIAST, established by the Dubai Government in 2006 to facilitate the country's move to develop a knowledge-based economy, takes pride that every one of its scientists and engineers are Emiratis.

Ahmed Obaid Al Mansoori, director general of EIAST, says: "Developing a base of UAE scientists and engineers is a crucial first step in becoming a regional and global leader in the fields of advanced science and technology."

At the UAE's Global Space Technology Forum (GSTF), held in November, Mr Mansoori proposed that the UAE creates an Emirates' Research Authority, and a Science Academy to define a UAE-level space policy.

He urged collaboration in the UAE by formulating a coherent, coordinated science policy that integrates the diverse research activities of governments, industries, universities, and decision makers in the country.

Largest space centre

It's a similar story in Abu Dhabi, where the largest space centre in the Middle East and North Africa (MENA) is to be built within the next six months.

Called the 4C GEOC, the \$1.03bn centre will receive and analyse data from a cluster of four satellites, which will be launched by 2013 with two of them being operational by 2012.

The centre will cover an area of approximately 10,000 square metres and is a collaborative venture between United States public company 4C Controls Incorporated, and Abu Dhabi-based Hydra Trading LLC.

Major-General Khalid Abdulla Mubarak Al Buainain, the executive vice president of Middle East Military and Defence Projects at 4C Controls Incorporated, says the centre will hold an earth observation satellite data Direct Receiving Station (DRS) and offer university-level courses in space engineering, held in cooperation with the Politecnico Di Torino, Italy.

The space centre will focus on defence applications, civilian security and surveillance, emergency risk management, maritime management, environmental protection, geology, forestry and hydrology, cartography and planning.

"We believe that having 4C's Gulf Earth Observation Centre located in Abu Dhabi will



uniquely provide our region with an access to a key technology, secure and timely data acquisition, processing, analysis and distribution, which was not available to our regional customers," he adds.

The space centre will form a part of a global network of three ground stations spread across the Middle East, Africa and Latin America to collect satellite data and provide telemetry, tracking and control (TT&C).

The data will be acquired under the company's Gulf Satellites Programme, an earth observation system (EOS) consisting of four high-resolution SAR satellites (GULF SAR 1, 2, 3 and 4) and two high-resolution optical satellites.

There are also plans to include a conference centre for hosting special events and annual conventions related to earth observation technologies.

Al Yah Satellite Communications Company (Yahsat), a wholly owned subsidiary of the Mubadala Development Company, has also signed an agreement with a European consortium comprising of EADS Astrium /Thales Alenia Space to manufacture a \$1.66 billion dual satellite communications system in time for a launch in the second half of 2010.

Yahsat's two satellites will be launched within months of one another and fulfil the satellite communication requirements of both government and commercial customers in the Middle East, Africa, Europe and South West Asia. The operational life of the satellites is estimated at 15 years.

S2M, a mobile entertainment provider in the Middle East and North Africa, has also announced a formal contract with Space Systems/Loral (SS/L) for the S2M-1 satellite –

the first mobile TV satellite covering the Middle East and North Africa. S2M will offer a mobile TV service that will allow consumers to watch and listen to high-quality video and audio broadcasts via mobile phones and other personal mobile devices throughout the region.

In 1985, Prince Sultan bin Salman bin Abdulaziz Al Saud of Saudi Arabia, blasted off from Cape Kennedy on board Space Shuttle Discovery for a seven-day mission as a payload specialist, helping to deploy a satellite for the Arab Satellite Communications Organisation.

As the first Arab to travel into space, Prince Sultan became an icon across the region. He was also the first person to observe Islamic prayers and read the Qur'an in space.

Micro-satellite programme

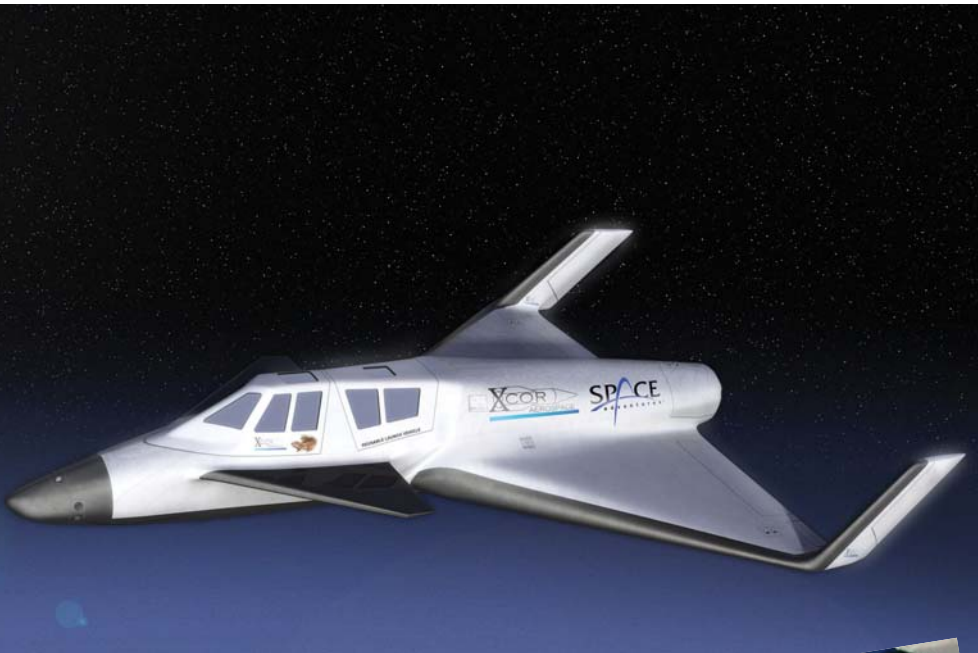
Saudi Arabia has been in the satellite business for the last nine years with its SaudiSat micro-satellite programme. Saudisat 1A and 1B were developed by the Saudi Institute for Space Research at KACST (King Abdulaziz City for Science and Technology), Riyadh, and carried amateur radio store-forward communications payloads.

Launched in 2000, they were joined over the next four years by four more satellites, culminating in Saudicomsat 1 in June 2004.

A further six communications satellites were launched in January 2008, according to KACST. The craft were launched from the Baikonur Base in Kazakhstan on Russian-Ukrainian launchers.

The Saudi Centre for Remote Sensing (SCRS) was established in 1986 as a division of the Space Research Institute.

SCRS signed a number of agreements to receive data from various satellites. The ground



station is capable of simultaneously receiving multiple satellites and it is fully automated for satellite tracking reception.

SCRS is now considered one of the leading centres worldwide.

Arabsat was formed in 1976 by the 21 member-states of the Arab League and owns and operates four satellites, at two orbital positions – 26° and 30.5° East.

Earlier this year it signed a contract for two new satellites (5C and Badr 7) with EADS Astrium and Thales Alenia Space for manufacturing and Arianespace for launching.

Iran says it launched its first domestically-made satellite into orbit in February 2009. The satellite, carried on a Safir-2 rocket, was meant for telecommunication and research purposes, Iran state TV said.

Launched into a low orbit, the satellite was expected to fallback to Earth, burning up as it re-entered within a few months.

Nevertheless, the US said the launch was of “great concern” and could lead to ballistic missile developments, although Iran insists its intent is peaceful.

Iran is reportedly working on five satellite programmes, though little information is available.

Egypt launched its first imaging satellite, EgyptSat 1, in April 2007 in a cooperative venture with the Ukrainian-based KB Yuzhnoye company.

Egypt has already launched a number of satellites for non-scientific purposes. Nilesat 101 was launched in 1998, Nilesat 102 in 2000, and Nilesat 103 in 2007.

These are capable of delivering more than 400 TV and 100 audio channels as well as multimedia

services to tens of millions homes over North Africa, the Middle East, (from Morocco to the Arabian Gulf region) and Southern Europe.

Nilesat has also selected Thales Alenia Space of France and to build the Nilesat 201 satellite, which is scheduled to be launched in early 2010 aboard a European Ariane 5 rocket.

The Nilesat 201 is expected to weigh 3,200 kilograms at launch and deliver 5.7 kilowatts of power to the payload. It will carry 28 Ku-band transponders and four transponders in Ka-band for direct-to-home television, radio and data-transmissions in the Middle East and North Africa.

The last word in Middle East space exploits rests with US-based Space Adventures. In February 2006 it announced that it was to build a \$265m global Spaceport development project at Ras Al-Khaimah in the UAE.

The company, which has organised the orbital flights for all of the world’s private space explorers, also announced that His Highness Sheikh Saud Bin Saqr Al Qasimi of Ras Al-Khaimah, along with the UAE Department of Civilian Aviation, had granted clearance to operate suborbital spaceflights in their air space.

Space Adventures president and CEO Eric Anderson said the UAE spaceport, planned to be located less than an hour drive from Dubai, would offer flights aboard its system consisting of a flight-operational carrier aircraft, the M-55X, and a rocket spacecraft. Explorer, as it has been named, will have the capacity to transport up to five people to space.

Cosmonaut training

Space Adventures currently offers a variety of programmes, such as the availability today for orbital space flight missions to the International Space Station, zero-gravity and MiG flights, cosmonaut training, spaceflight qualification programs and reservations on future sub-orbital spacecraft. It has sold seats on Russian rockets to the International Space Station worth an estimated \$250 million.

A typical trip to the ISS, such as Hungarian computer software executive Charles Simonyi’s, cost around \$50 million.

Sub-orbital flights such as those from the Ras Al-Khaimah spaceport will typically cost around \$100,000 apiece.

At the time of writing Space Adventures refused to comment on the latest plans for the UAE spaceport, only referring back to their original press release, which is already three years old.

Virgin Galactic chairman Richard Branson is also said to be interested in building a Middle Eastern spaceport for his Burt Rutan-designed ‘White Knight Two’ mothership and eight-person spacecraft ‘SpaceShipTwo (SS2)’ combination.

He said recently that several new countries are now bidding for a spaceport as the project moves closer to reality.



Top left: An artists’ impression of 4C’s new Gulf Earth Observation Centre in Abu Dhabi.

Top: Space Adventures announced in 2006 that it was to build a \$265m global spaceport development project at Ras Al-Khaimah in the UAE.

Centre: Prince Sultan bin Salman bin Abdulaziz Al Saud of Saudi Arabia, blasted off from Cape Kennedy on board Space Shuttle Discovery in 1985.

Bottom: Richard Branson is said to be in talks with a number of Middle Eastern countries about setting up a spaceport for his Virgin Galactic Space Tourism business.

Composites had previously been restricted to components such as fan blades and fan cases in cooler, less hostile operating environments. Now, thanks to a ground-breaking development, GE is closing in on a technical milestone. Martin Johnson reports.

Composites: Now, at last, some like it hot

Airlines in the Gulf, which have forged reputations as trendsetters with their seemingly insatiable appetites to acquire the world's most efficient aircraft, are likely to be taking a close interest in developments announced by GE Aviation. These see significant expansion in the use of composites at the heart of future-generation engines.

General Electric is planning to overcome what it describes as the "elusive technical milestone" of introducing durable, lightweight composite parts into an engine's hot section. Composites had previously been restricted to components such as fan blades and fan cases in cooler, less hostile operating environments.

The ground-breaking development is being focused initially on the GE Rolls-Royce Fighter Engine Team's F136 development engine for the Joint Strike Fighter (JSF) which will use third-stage, low-pressure turbine vanes manufactured by GE from ceramic matrix composites (CMCs).

This could lead to the first commercial use of CMCs in a jet engine's hot section (combustor and turbine areas) when an F136-powered JSF begins flight testing next year.

CMC components are made of silicon carbide ceramic fibres and ceramic resin, produced through sophisticated manufacturing processes, then further protected by proprietary coatings.

The material's application in jet engines brings two major benefits. Firstly, CMC parts are one-third the density of the metal conventionally used in equivalent components, so providing significant weight reduction and fuel efficiency. And secondly, GE claims the new composites are more durable and heat-resistant than metal parts, requiring less cooling air, and thereby improving overall engine efficiency.

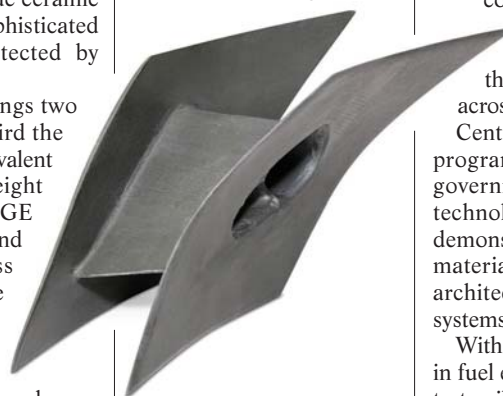
GE describes its work on CMCs, which are produced at its Newark, Delaware facility, as a key initiative and "an enabling technology" in several of its private and government-funded engine demonstrator programmes.

The use of hot section composites features strongly in GE's eCore programme, identified as the cornerstone of the company's development of future engines for the next generation of narrow-body, regional and business jets.

"CMCs are a new frontier that will raise the bar in jet engine performance," says Robert Schafrik, GE Aviation's general



The pioneering use of composites for the GENx fan case and fan blades is a precursor for what GE says is a "new frontier" for aviation - the first commercial use of composite components in the hot section of an engine.



GE predicts that composite components, such as this low pressure turbine vane, will become commonplace in the hot sections of future engine programs.

manager of materials and process engineering. "Developing new jet engine materials takes many years of investment and commitment, but the benefits can provide a considerable competitive advantage." Schafrik predicts the use of CMC components will become commonplace in hot section areas, including high and low-pressure turbine vanes and blades, turbine shrouds and combustor liners.

The plans for advanced CMCs are a natural progression of GE Aviation's enthusiasm for composites in cooler areas of the engine, using polymeric matrix components made of carbon fibre and epoxy resin. In 1995 it introduced the first carbon fibre composite fan blades in an airline engine on the GE90 for the Boeing 777.

Moving to the next stage, the GENx engine, which will power the Boeing 787, will incorporate composite fan blades, using the same fibres, resin and manufacturing methods as the GE90 blade, and a fibre-braided composite fan case. GE claims both will deliver "dramatic" weight savings.

GE Aviation and GE's Corporate Research Center have been working on advances in CMC applications for more than 15 years, during which time GE Aviation ran a US government demonstrator engine which featured a composite combustor liner and low-pressure turbine blades. Looking to the next 15 years, GE believes its work on advancing jet propulsion could help lay the groundwork for the broader application of CMCs across several industrial sectors.

Central to this effort is its next-generation engine core programme, eCore, comprised of several private and government-funded R&D initiatives, many with key technology milestones this year. The work involves demonstrator engines and engine hot sections using new materials, 3D aerodynamic designs and unique architectures, as well as testing advanced electric power systems and new methods of thermal management.

With the aim of demonstrating significant improvements in fuel efficiency over current engines, full engine and rig tests will feature increasing use of CMCs, advanced alloys in the turbine machinery, unique cooling technologies and the latest development of the twin-annular pre-mixed swirler (TAPS) low emissions combustor.

The first element of eCore is slated to run in mid-year as part of CFM International's LEAP-X – the programme to develop a turbofan for future replacements of current narrow-body aircraft. GE and Snecma have scheduled the first run of the demonstrator engine for 2012.



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It took 20 years to develop and will be in service by 2013. The Geared Turbofan is ready to revolutionise the engine world.

Alan Peaford reports.

P&W GEARED UP FOR THE ENVIRONMENT

The Pratt & Whitney Geared Turbofan demonstrator engine is back in Connecticut having completed a two-phase, 120-hour flight test programme under the wings of a Boeing 747SP and Airbus A340-600.

The engine will power the new Bombardier CSeries regional jet and the Mitsubishi Regional Jet.

An order for up to 40 CSeries jets from Lease Corporation International as part of a contract announced at the end of March has given the newly dubbed PW1000G engines, which target double digit reductions in fuel burn, environmental emissions, engine noise and operating costs, the go-ahead that the American engine maker has waited years to achieve.

"It has taken 20 years to develop," says Bob Saia, P&W vice president, Next Generation Product Family. "We will be in service in 2013. The difference will be remarkable."

The go-ahead of the CSeries from Bombardier gave the new technology the platform it needed. And arguably, the PW1000G gave Bombardier the powerplant it needed to get the launch.

"The competitive advantages of the Bombardier CSeries include the efficiency and performance of the PurePower PW1000G Engines," says Gary Scott, president, Bombardier Commercial Aircraft. "These advanced technology engines will help to deliver double digit reductions in fuel and cash operating costs."

The order followed a 60-aircraft launch

announcement by German carrier Lufthansa, who historically have led the way in innovative aircraft types.

"These orders give Pratt & Whitney the opportunity to provide up to 200 PW1000G engines for Bombardier CSeries aircraft," says Todd Kallman, president, Pratt & Whitney Commercial Engines & Global Services. "Our engines will help our customers with double digit reductions in fuel burn and operating costs."

The latest announcement marks the third order for the PurePower PW1000G engine, with the engine launch order coming from All Nippon Airways in 2008. Both aircraft are scheduled to enter service in 2013.

The thorough flight test programme conducted with Airbus has produced a lot of data that is being analysed by P&W and shared with Airbus. The engine maker is now working on detailed design of the PW1217G (17,000 lbs-thrust) and PW1524G (24,000 lbs-thrust) powerplants for the Mitsubishi Regional Jet and Bombardier CSeries, respectively. Ground testing of the PW1217G is planned for mid-2010 with certification in late 2011.

Although Saia said there is no link between the use of the Airbus for testing and future requirement, the GTF engine is widely believed to be a front-running candidate to re-engine the Boeing 737 and A320 narrowbodies in the near term. Airbus has previously said it would require at least two years to re-engine the A320.

The PW1000G engine uses a gearbox to

optimise the large diameter fan and engine core to improve the fuel burn. Pratt & Whitney hopes to deliver a 12-15% improvement in fuel consumption for airline operators.

"We also see a significant reduction in the number of parts," Saia says.

The test programme appears to have been a major success. "it is truly unprecedented to complete this amount of testing on a technology demonstrator engine," says Saia. "We were able to complete all flight test objectives with flawless engine operation. The Airbus A340 flight test programme included engine test evaluations normally conducted for a production engine certification.

"The PurePower PW1000G demonstrator engine successfully demonstrated the performance and operational benefits of the engine's unique gear system as well as assessing in-flight performance, engine handling, in flight acoustics and aircraft installation of the demonstrator engine."

The PurePower PW1000G engine uses an advanced gear system allowing the engine's fan to operate at a different speed than the low-pressure compressor and turbine. The combination of the gear system and an all-new advanced core delivers double-digit improvements in fuel efficiency and environmental emissions and a 50% reduction in noise. Pratt & Whitney has successfully tested the advanced high pressure compressor and low emissions combustor technology.



Geared Turbofan deal is Volvo Aero's largest ever with a commercial engine

Volvo Aero has extended its long-standing relationship with Pratt & Whitney by joining the Geared Turbofan programme. The formal agreement comes two years after Volvo Aero announced it would begin developing and demonstrating advanced lightweight technologies for the new engine series.

With forecast revenues of \$6.25 billion over 40 years, Volvo Aero describes the agreement as its largest-ever involvement in a commercial engine programme.

The contract covers three major components for the new engine that will power the Mitsubishi Regional Jet and Bombardier's CSeries. Volvo Aero will have overall responsibility for design, development, production and aftermarket of the intermediate case and turbine exhaust case as well as production of the low-pressure turbine shaft.

With manufacturing routes ranging from steel fabrications to machining of large, one-piece titanium castings, Volvo Aero has wide experience in the area of fan and compressor structures, and already has design and development responsibility for the intercase on both the Rolls-Royce BR715 and Trent 900.

Production of turbine exhaust cases is handled in a dedicated manufacturing cell at the company's Trollhättan base in Sweden where Volvo Aero has developed new concepts for fabrication of turbine structures using optimised combinations of castings, forgings and sheet metals of one or more different materials. Volvo says manufacturing modelling of the welding and heat treatment processes, for example, in conjunction with advanced process control and automation, have resulted in a robust and competitive route to the production of large structural components.

Lastly, precision manufacturing of low-pressure turbine shafts is also an important area of specialisation for Volvo, with over 5,000 of these components delivered for military and commercial engine programmes.

The GTF collaboration is seen by Volvo Aero as a further opportunity to refine its ability to develop a broad range of lightweight engine structures and rotors, including a range of technologies which have emerged through Swedish national programmes and European Union funded environment improvement initiatives such as the VITAL engine demonstrator programme.

In December last year Volvo Aero – one of no fewer than 53 partners in this four-year, \$67 million research project – announced the successful testing of its next generation high-speed, low-pressure compressor, designed to be 15% lighter than the current industry benchmark. VITAL's collective technologies are intended to help Europe meet its ambitious environmental goals for 2020 which include halving carbon dioxide and noise, as well as 80% lower nitrogen dioxide emissions against industry-leading standards from the year 2000.

This latest agreement marks a further strengthening of the Pratt & Whitney / Volvo Aero relationship built around a long history of co-operation going back to the JT8 and extending through the PW2000, PW4000, PW6000, F117 and FT8, not to mention the GP7000 and V2500 collaborations, the latter via P&W's role as a senior shareholder in the International Aero Engines consortium.

CFM's new generation development could pave the way for lighter engines.

Phil Nasskau reports.

A LEAP in the light...

CFM, the Franco-American joint venture between Snecma and GE, has reaffirmed its commitment to the development of its LEAP-X commercial jet engine. As part of the development, the company has begun testing of its next-generation engine that utilises new blade technology.

The test engine is called MASCOT (Moteur A Souflante CComposite Taille LEAP-X) and its fan blade is currently mounted to a CFM56-5C. But because the fan's blades are made from a 3D woven composite, the 71" diameter fan is able to reduce the number of blades to 18.

CFM says that because the blade count can be halved, this means in comparison to the current CFM56 there is a weight saving of 500lbs per engine – although that figure does include a composite case.

The fan blade itself contributes around 300lbs in weight saving from its woven carbon fibre blades tipped with titanium for the sake of blade erosion.

By constructing the casing/nacelles from composites, a further 200lbs can be saved.

Francois Planaud, Snecma executive vice president says that LEAP-X will maintain CFM's leadership as the company further develops the technology.

Other composite technology the engine-maker is utilising includes Ceramic Matrix Composite (CMC). According to CFM, CMC is a great composite for high temperature environments. It has very little expansion, very high heat resistance and does not need film cooling.

Because of this it says it could reduce the amount of cold air used for cooling from 12% to around six, thereby making the engine more efficient.

Although the company has outlined a 2016 certification date for the CFM-56 evolution, this is subject to change due to airframer requirements.

"We have many technologies in the laboratory that are not yet mature so we cannot discuss them but if the next generation of airliner is not ready until 2020 then we can incorporate these new technologies," explains Planaud.

The company has ambitious targets for the new engine. It aims to provide 16% lower fuel consumption when compared to its most efficient CFM56, as well as 10 – 15dB lower noise compared to Stage 4 levels and a more than 60% reduction in NOx emissions against CAEP 6 requirements.

To obtain its 16% fuel reduction the engine manufacturer says the majority of the saving will be from increases in



propulsive and thermal efficiency and component efficiency, with what it calls "advanced engine efficiency" making up the rest.

As a result, the fan blade will remain a 3-D woven resin transfer-moulding composite and is aiming for an 85% higher bypass ratio. The company has already manufactured more than 300 blades during its technology validation programme.

Presently the engine will have a bypass ratio of around 10 compared to the current family that has ratios of between five and six. While in the core, using the Twin Annular Premixer Swirler (TAPS II) combustor, it expects to increase the core pressure ratio by more than 50%.

Snecma engineer Jacque Crombier explains that an increase in bypass ratio would typically increase weight in the engine, and therefore increase drag.

By increasing the LEAP-X's bypass ratio, the fuel efficiency is increased and NOx emissions are reduced but the weight penalties are negated through the use of composite materials.

And in the core the company plans to increase the pressure ratio two-fold up to 22.

To help raise the pressure ratio CFM sees its CMC technology as a key enabler in the low-pressure turbine at least.

Crombier explains that CMC has photorepairability and will return to its original shape. Because of this it can be used in propulsion systems and it has an increased durability and decreased weight.

While in the high-pressure turbine the company is making use of its advance turbine airfoil material for the blades and CMC for the nozzles and shrouds.

The combustor is currently testing as part of a full annular rig, which is expected to be completed by the end of Q2 this year, before moving to a full-scale core test in the middle of the year.

The company expects to be rolling out full engine demo in 2012. Planaud adds: "Because fuel price is such a high proportion of direct operating costs we are focusing on fuel efficiency."



The LEAP-X (top) and the woven composite fan blade.



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Repairing rather than scrapping components can make a vital contribution to the bottom line.

MARTIN JOHNSON meets the innovative companies developing systems to support the region's carriers.

Part players who will help cut costs

Industry forecasts appear to have reached broad consensus on at least one prediction – Middle East air traffic will continue to grow at extremely healthy, even spectacular rates, for the next two decades.

The Airbus global forecast, for instance, anticipates year-on-year growth of 6.5%, requiring the region's commercial jet fleet to triple to more than 1,600 aircraft. Additionally, the Rolls-Royce 20-year outlook anticipates regional demand for a similar number of new business jets.

The situation creates some interesting dynamics as the delivery of state-of-the-art equipment is accompanied by demands for ever more inventive ways of reducing operating costs. It's against this background that the specialist area of component repair has turned into a battleground for the MRO providers.

The agreed industry ballpark appears to be that, on average, a repair costs around one third as much as a replacement part, and often goes on to achieve longer service

life. Little wonder the major players are committing serious levels of resource in the drive for repair innovations.

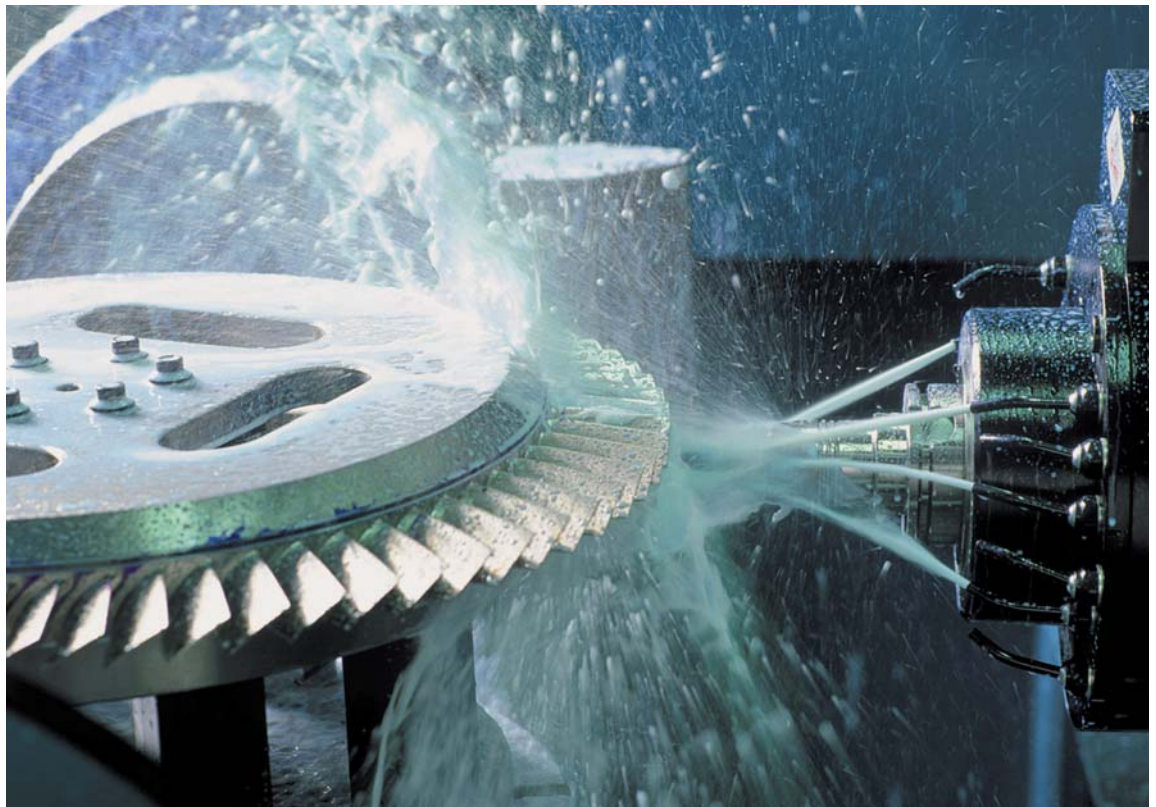
Pratt & Whitney, for instance, has a team of around 300 specialists dedicated to developing new repair solutions, and claims that initiatives delivered by its SAVE (Scrap Avoidance and Value Engineering) clinics, have already identified \$100 million worth of potential savings to customers.

"As a leading OEM, we can define much more complex repairs for our own engines. We're capable of levels of sophistication that others can't match," says Lynn Gambill, director of P&W Global Services Engineering. This has even led P&W to offer design enhancement rather than straight repair on some old parts where a significant cost of ownership benefit is identified.

P&W's starting point involves analysing scrapped parts, concentrating on high-volume, high-value components, followed by a detailed

Continued
on Page 70

Advanced milling techniques are part of repairs being developed by MTU Maintenance for HP compressor blisks.





Pratt & Whitney says new repair schemes developed through its repair clinics could deliver savings worth \$100 million to customers.

project evaluation carried out in conjunction with the customer. Pratt says it takes anything up to six weeks to assess potential new repairs on its own products, although evaluations involving other manufacturers' engines can last several months.

P&W is targeting an increased share of CFM56-5 and -7 overhauls, which Gambill describes as "a definite growth opportunity." New overhaul shops being opened by P&W in China and Turkey this year will both be CFM-capable.

Meanwhile, MTU Maintenance, which has customers including Saudi Arabian Airlines, Saudi Aramco, Qatar Airways, Royal Jordanian and Abu Dhabi Aircraft Technologies (ADAT), has even embraced the repair revolution as part of its branding, using the motto "Repair Beats Replacement." Its search for new repair schemes involves teams in Berlin, Hanover and Munich funded by an annual R&D budget of \$13 million.

"Our strategy is not to come up with 'me too' repairs," declares Bernd Kriegl, director engineering, Commercial MRO at MTU Aero Engines.

"As an example, he cites repairs involving low-pressure compressor blisks (one-piece bladed discs), which have normally been viewed as replacement-only components. Developments in milling techniques and advanced welding methods initially allowed blade tips, as well as leading and trailing edges, to be treated. Now, as more processes evolve, the range of repairs is being extended to include replacement of entire blisk blade sections.

Pratt & Whitney has also patented blisk repair schemes (identified as "an area of key focus" by Gambill) and is using linear friction welding to replace whole blades.

New repair procedures, like engine development programmes, will typically pass through a series of formal approvals. MTU Maintenance has a procedure that requires seven "gates" to be cleared in sequence, starting with confirmation of a repair's objectives and ending with a full process and quality review several months after production release.

Depending on the complexity of the repair, clearance can take between six months and two years, although in exceptional cases involving advanced technologies and rigorous certification testing, it can be longer. MTU's blisk initiatives, for instance, took between two and four years to clear the gating process.

The ability of history to shape corporate character is illustrated in this sector by Lufthansa Technik (LHT). "Psychologically, because we originated as Lufthansa's technical support arm, I believe we're able to get closer to the airline point of view," says

Thomas Böttger, head of customer support and product sales, Engine Services at LHT. "We're not an OEM, so we try to differentiate. If the only option is to buy a new OEM part, we look for an alternative. Is a repair possible? Is the technology available, and how much resource will be needed?"

Parts availability is also factored in. For instance, if a high-value component is scarce, and that situation is likely to persist, the case for investment in developing a new repair is strengthened. Conversely, the ready availability of used parts would have the opposite effect.

Development of new repairs is the responsibility of LHT's 90-strong Engine Parts and Accessory Repair (EPAR) team, based in Hamburg, with around 50 significant new schemes being produced every year.

Two examples which typify LHT's approach involve a new anti-friction barrier, developed with subsidiary Lufthansa Technik Intercoat, to treat CFM56 splitter fairings, and a thermal barrier coating for V2500 combustion chamber fuel nozzle guides using a similar technology to that used by the OEM.

According to LHT, neither of the OEMs offered a repair, but in both cases LHT's own solutions are claimed to have cut scrap rates and made available a repair with longer life than a replacement part, at a third the cost.

However, LHT, which recently signed broad-based support deals with National Air Services of Saudi Arabia, and Saudi's newest low-fare carrier Sama Airlines, says developing new repair solutions has to be balanced with more

immediate issues in the Middle East, such as the number of engines coming off wing early. Focus is on intervention between overhauls to increase time on wing as sand ingestion continues to be a common cause of disruption, particularly affecting combustion liners and blocking cooling passages in HP turbine blades.

Realistically, none of the rivals can afford to ignore the levels of R&D required to push the boundaries on repair solutions. In fact, as P&W's Gambill points out, advancing the science of repair is imperative, with specialists in ever-wider demand, evidenced by their integral role within the product design team behind the PurePower geared turbofan series.

"Experience in the field means we are aware of aspects such as distress modes, which allows us to anticipate future repair needs.

"For instance, that may lead us to recommend an optimum thickness for a blade root, resulting in longer on-wing life. Even before a new engine enters service, our input can be a vital part of driving down lifecycle cost," Gambill says.

JV centre in Abu Dhabi

Sikorsky Aerospace Services has signed a Heads of Agreement with the Mubadala Development Company.

The agreement will form a joint venture to establish a military aviation Maintenance Repair and Overhaul (MRO) centre serving the United Emirates Armed Forces and other military aircraft throughout the Middle East and North Africa.

Abu Dhabi-based Mubadala is a business development and investment company and will join forces with Sikorsky's aftermarket business to provide full logistics maintenance capabilities for the UAE Armed Forces' fixed and rotary wing aircraft, while developing market opportunities to support the military aviation industry throughout the region.

The agreement was signed at the IDEX defence exhibition.

David Adler, president of Sikorsky Aerospace Services, says: "This agreement marks a major step in the development of the region's prominence as an aerospace leader and in Sikorsky Aerospace Services's mission to establish strategic partnerships in every region of the world where our customers operate.

"Together with Mubadala, we intend to bring world-class, one-stop support and logistics maintenance capabilities to this region."

Waleed Al Mokarrab Al Muhairi, chief operating officer of Mubadala, adds: "Mubadala's strategy to help build a self-sustaining and commercially viable support system for the UAE and regional military is in line with the global military trend of using sophisticated outsourced support services.

"Our partnership with Sikorsky Aerospace Services fits our commercial strategy to evolve the Emirate of Abu Dhabi's existing aerospace industry into a global aerospace hub."

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*2009 is likely to be remembered as the year when mobile phones for passengers finally arrived among the airlines. But, writes **BRENDAN GALLAGHER**, Dubai's Emirates was years ahead of the game...*

Emirates leads the march of the mobiles

Making it possible for air passengers to use their own mobile phones isn't magic. You need a long, thin aerial the length of the cabin, an onboard miniature cellular base station, a satellite link with the ground, and one or two other small units to manage the activities of the phones.

Put them all together and passengers can make voice calls and send texts and emails without any risk of interfering with the aircraft's avionics or disrupting the mobile networks on the ground.

Yet at least five years of technical development and regulatory activity had to happen before, in March last year, Emirates became the first airline in the world to offer a service on a full commercial basis. The airline had made its mind up about mobile phones as much as seven years before that, well ahead of any other carrier in the world. So why did it all take so long?

It wasn't for any lack of prompting from Emirates. "We told the airline communications providers that we'd buy if they developed a solution," says passenger communications and in-flight entertainment VP Patrick Brannelly. "It seemed an obvious thing to do, given the growth of the mobile phone market and, despite the industry belief that seatback satellite phones were a flop, the tremendous usage we saw in our own aircraft."

Though airworthiness certification was more protracted than Emirates and UK-based service provider AeroMobile had foreseen, no-one could blame the authorities. Confronted by quantities of anecdotal evidence about phones interfering with aircraft systems, bodies like EASA and the British and Dubai CAAs, proceeded with proper caution. "The stories were all shown by responsible investigators to have been urban myths," comments Brannelly. "Even so, we always said that certification shouldn't be rushed – we wanted it done right and as thoroughly as possible." In parallel, though, the waters were being muddied by what can only be described as anti-phone hysteria in the world's biggest air transport market – the USA. Many Americans still believe that phone chatter in crowded cabins will lead to

air-rage mayhem. A couple of years ago concerted lobbying led to the abandonment of attempts by the Federal Communications Commission to follow the pro-phone lead of Europe, the Middle East and Australia, and even now two Congressmen are trying to push through a bill that would outlaw voice calling in US airliners in the long term.

It has fallen to Emirates, with Brannelly in the vanguard, to show how ill-founded the fears of the Americans really are. "We've had no complaints or incidents since launch," he says. "Our passengers have responded matter-of-factly, as if it's the most natural thing in the world. They just switch on their phones and get on with it."


Race to be first

In the race to be the first airline to fit its whole fleet with mobile phone, Emirates is now neck-and-neck with Irish low-fare operator Ryanair, which launched a 20-aircraft trial in February and says it's set on equipping its 180-plus Boeing 737-800s. At that point more than 30 Emirates aircraft had been equipped and the service was being rolled out rapidly across the rest of the airline's 100-plus Airbus A330s and A340s and Boeing 777s. Work on its growing fleet of Airbus A380s is due to start before the end of next year.

Installations are being completed at a rate of about three aircraft a month. "Each one now takes less than two days," says Brannelly. "AeroMobile carried out the first 25 installations, then our engineers took over, using AeroMobile-supplied kits. All 18 of our A340s will be done by summer. They will be the first sub-fleet to be completed, allowing passengers on those routes to bank on finding the service on board."

Emirates logged the 150,000th log-on to the AeroMobile system on March 16 – the milestone was reached when a passenger made a call during a flight from Dubai to Singapore. The first 50,000 took nine months from service launch in March 2008 to the end of the year, the second less than two months and the third just a month as the number of

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equipped aircraft grew and passenger awareness built up.

Now more than 350 short and long-haul flights to 49 countries are carried out by AeroMobile-equipped aircraft every week. Typically more than 30 per cent of passengers are logging on, with more than a hundred people per flight ready to make and receive calls at peak times. On one recent flight 129 passengers switched on.

Everyone carries a mobile

"Almost everyone carries a mobile on to the aircraft these days and we believe the rest don't switch on for one of three reasons," comments Brannelly. "They don't watch the video telling them that they may use their phones. Or they leave their phones out of reach in bags, believing they won't be able to use them – we expect this to change as service availability and awareness grow. Or their friends and family are asleep in another time zone and so there's nobody to call."

Take-up is also affected by the number of cellular roaming agreements that AeroMobile has been able to secure with mobile operators. "The total is growing rapidly but it's still possible for a passenger to find that his home operator doesn't have an agreement with AeroMobile," says Brannelly. "At present the percentage of passengers who switch their phones on and find

they can roam on to the AeroMobile network varies from about 40 per cent on European routes to 75 per cent on certain routes elsewhere. In general, passengers are becoming more aware of the need for their home mobile operators to have a roaming agreement with AeroMobile."

Those passengers that do make calls after switching on their phones pay a variety of prices depending on the home operator's mark-up: "It can sometimes be surprisingly good value. For instance, it costs a British O2 subscriber no more to call the UK from an aircraft than from the ground in Dubai."

Brannelly is also responsible for Emirates' industry-leading ICE in-flight entertainment offering. "For many of our passengers, making a call on a personal mobile phone during a flight has become as natural as watching the in-seat screen, which offers a choice of up to 1,200 channels of entertainment," he observes. "The AeroMobile facility is growing in popularity day by day. Our passengers are clearly using the system to stay in touch, as we saw with big increases in the number of voice calls and text messages during recent special occasions such as New Year and Valentine's Day."

Later this year the hardware on the Emirates' aircraft will be upgraded to support GPRS data capability, allowing passengers to send and receive email via devices such as the BlackBerry and laptops with GPRS data cards. "We've been

keen to see this capability for some time," comments Brannelly. "But we've had to wait for the avionics manufacturers to produce the necessary equipment."

There is also more bandwidth to come in due course. The AeroMobile system currently uses for its air-to-ground link the Inmarsat Classic Aero satellite terminals that have been installed on all Emirates aircraft for some years.

Features and capabilities

These units are due to be upgraded at the earliest opportunity to the 432kbit/sec SwiftBroadband, which will make it possible to offer further features and capabilities. "Our general goal is clear," says Brannelly. "We want to enable all our passengers to use their phones and BlackBerrys in flight in just the same way as they do on the ground."

Full-up internet access for laptops could be some time in coming to Emirates passengers, however. "Such services have got to be affordable and globally available, and the provider must have a long-term viable future," emphasises Emirates' connectivity and IFE pioneer. "I have a lot of faith in SwiftBroadband – people will do a lot of interesting things with it – but it can't offer as much capacity as services like Aircell's Gogo in the USA and the now defunct Connexion by Boeing."




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Kuwaiti premium carrier Wataniya was the first airline to introduce the OnAir inflight mobile phone service. Chief executive George Cooper comes over loud and clear to **BRENDAN GALLAGHER.**

Cooper convinced that wing tones are here to stay

Airlines come no more different than Ryanair and Wataniya Airways. The Irish low-fare operator is famous, even infamous, for its sparse service levels and ruthless focus on the bottom line. The new Kuwaiti start-up is a premium carrier set on offering unprecedented levels of quality to its customers. But they do have one thing in common – a firm belief in on-board mobile phone.

Ryanair is in it for the money, of course. “We see this as a growing source of ancillary revenue, allowing us to continue lowering our fares,” said chief executive Michael O’Leary when he announced the launch of a 20-aircraft trial of the OnAir offering in February.

Though the primary motivation is different at Wataniya, the prospect of a revenue windfall doesn’t dismay chief executive George Cooper. “We’re not doing it for the revenue – it’s much more about providing a service for our guests,” he says. “But given the usage that we’re seeing, I do believe it could also become a decent source of ancillary revenue.”

Cooper is uniquely qualified to pronounce on the phenomenon of on-board mobile phones. Before launching Wataniya in January, he led the SITA/Airbus-owned OnAir through the years of technical development and regulatory hard slog



George Cooper: “We’re not doing it for the revenue – it’s much more about providing a service for our guests.”

needed to convince the airlines, the airworthiness authorities and the cellular operators that phones in the cabin pose no threat to safety or the integrity of the ground mobile networks.

Over the last 18 months the OnAir service, which supports voice calls plus text messaging and email through passengers’ own phones and BlackBerry-type devices, has been the subject of trials by a number of airlines – Air France, bmi of the UK and TAP Portugal as well as Ryanair. But, by a quirk of fate that must give Cooper a lot of satisfaction, Wataniya was the first carrier to offer it on a full commercial basis.

By the middle of March Wataniya had a pair of leased Airbus A320s operating daily services to Dubai, Bahrain, Beirut and Cairo from the luxurious Sheikh Saad terminal at Kuwait International. Both aircraft are equipped with the OnAir system and both are seeing very high levels of passenger interest in the service, which is currently limited to messaging and email.

Like most of the other carriers that have looked at OnAir and ARINC-owned rival AeroMobile, Wataniya wants to make quite sure there’s no substance in US claims that phone chatter in the cabin will lead to air-rage mayhem. So, while the voice capability is in place and can be activated at the

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touch of a switch, it remains off until the airline can carry out a proper survey of passenger behaviour. And that, Cooper explains, must await the outcome of talks between the Kuwaiti communications ministry and the country's three mobile operators.

"It's all to do with charging levels," he says. "The mobile operators proposed rates appropriate to a cellular service. The ministry initially believed that they were talking about a conventional and much more expensive in-seat satellite phone offering. This has led to a gap between the two sides' numbers and, until the matter is settled, voice calls can be made outbound to Kuwaiti networks but none can be received in the aircraft."

The issue for Wataniya is that without incoming calls it's not possible to get a full picture of the effect of the voice service on the ambience of the cabin. "For instance, we can't assess passenger reaction to the ringtones of incoming calls," says Cooper. "So for the time being we've got voice switched off, though the data services are running."

And that's good enough for the average Wataniya passenger, it seems. Most of the people who board the spaciouly appointed A320s – they have a total of 122 seats in first and premium economy classes, against an industry average of 145 or more – are switching on their phones, according to Cooper. "On average every

passenger on every flight is sending or receiving a text, which is quite amazing," he says. "They are telling us they love the service and they want to know how soon they can use it to make and receive voice calls."

As boss of OnAir, Cooper used to pound the drum about how useful to passengers on-board cell phone would be in the event of diversions and other service disruptions. Now he's seeing his predictions come true. "One of our aircraft had to divert because of a weather problem at Kuwait," he recalls. "One of our senior managers was on board and he suggested to the crew that they switch on the voice capability to help passengers cope. There were a lot of voice calls, as well as a lot of text messages in and out."

When it comes to the much touted possibility of annoyance from voice calls, Wataniya's brief experience so far is similar to that of Emirates, which introduced the AeroMobile service more than a year ago. "Unless you actually turn and look at your neighbour and see that he's talking into a mobile, you're not aware that a phone conversation is going on," says Cooper. "The ambient noise in the cabin is such that you just don't hear anything, even if the caller is right beside you."

The US air transport industry's notoriously militant flight attendants have been sharpening their claws against the day when their managements might ask them to work in mobile-enabled cabins. "Our cabin crews have had zero issues so far," says

Cooper. "They've been asked questions – 'Is it on? Will my phone work?' But there's been nothing remotely difficult to deal with."

The next step for Wataniya is full-time activation of voice. "Once the regulatory issue with the communications ministry has been settled, we'll work with OnAir to survey a couple of flights and then we'll come to conclusion," says Cooper. "My own feeling is that we'll go ahead and switch it on definitively. There would be an initial limit of six simultaneous calls but we would want to move quickly to the practical maximum of 12 because of the usage that we have seen."

The early success of the OnAir service with Wataniya has come in spite of a deliberately muted promotional effort by the airline. "We haven't made a lot of it in promotional terms so far, and we won't do so until we know exactly what we are offering," says Cooper. "But when we do start to push it, I'm sure it will be a marketing trump card for us."

Wataniya and Emirates aren't the only Middle Eastern carriers setting the pace in the race to offer connectivity to their passengers. Royal Jordanian was hot on Wataniya's heels and several more have announced commitments to OnAir. "The Middle East airlines are leading the field because they trade on the quality of their service," Cooper concludes. "On-board mobile phone is simply another service that can provide an edge in a very competitive market."

Qatar adds OnAir for flight calls

Qatar Airways has signed a deal with OnAir to install Mobile OnAir in-flight passenger communications services on the airline's entire single-aisle Airbus fleet. They will operate in the Middle East, the Indian sub-continent and across Europe.

Passengers will be able to stay connected in-flight using their own mobile phones or BlackBerry-type devices to send and receive text messages and emails, and access the internet. They will also be able to access the internet using their own laptops fitted with GSM data cards.

Airlines equipped with OnAir services can choose to provide voice and data or data services only, depending on time of day and passenger preferences.

Akbar Al Baker, CEO, Qatar Airways, says: "Our commitment is to provide travellers with the very highest quality of service in the air and on the ground. The latest technology provided by Mobile OnAir is absolutely in line with Qatar Airways' Five Star ranking for service and excellence."

Benoit Debains, CEO of OnAir adds: "OnAir is proud to have been selected after a thorough evaluation by one of the most demanding airlines in terms of passenger service and comfort. Mobile OnAir provides global coverage, a full range of



Benoit Debains, CEO of OnAir signs the agreement with Akbar Al Baker, CEO, Qatar Airways at the Aircraft Interiors show in Hamburg in April.

service and the highest levels of performance."

Mobile OnAir uses the industry's most advanced and extensive infrastructure for mobile communications, along with Inmarsat SwiftBroadband high-capacity services from Inmarsat 4th-generation satellites. This gives passengers and airlines the best reach and performance available today.

The Qatar Airways announcement comes amidst

mounting demand for in-flight passenger communications. OnAir also serves private VIP and governmental customers through partnerships with Airbus Corporate Jets, Aviation Centre Cologne and Jet Aviation.

According to a recent passenger survey, 80 per cent of passengers who have used Mobile OnAir services on selected flights would like these services to be available on every flight.

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A shower is now almost essential on a widebody aircraft.

Liz Moscrop investigates the increasingly comfortable bathrooms on board.

Plumbing the heights

Where is the most exclusive spa in the world? Phuket? Dubai? 25,000ft over the Red Sea? If designer Jacques Pierrejean has his way, the last of the three will appear in a business jet sometime over the next few years.

Pierrejean has been working on aircraft interiors for decades and his latest project is an on-board spa. He says: "I want to produce steam water like a hammam. I'm looking for the sort of well-being that you'd find in a five star hotel."

The ambitious project will prove complex. To produce water for steam and create good ventilation to take the hot airflow demands ingenuity, including using a small diffuser inside the shower.

Pierrejean's thinking is based on how to promote optimum health on board. He consulted with medical experts who told him that it is unwise to bring gym equipment into the cabin. Exercising heavily at altitude can be dangerous, whereas the ambience of a spa and a small stretching area can be soothing.

Pierrejean knows what he is talking about in terms of wet areas and washrooms. He cut his teeth on small bathrooms for Dassault in the Falcon 20 and 50 series and the first shower he produced was for an Airbus A340 presidential aircraft.

Customer expectations

Today's business travellers expect to see a shower on board a long-range jet, especially on ACJ and BBJ types. After six to eight hours, passengers like to freshen up. Typically on an A340 there will be three or four showers, for example in three bedrooms with showers and one that is an extension of a communal lavatory. Passengers need to give crew two hours' notice should they wish to take a shower during the flight.

According to Boeing, 80 to 90 per cent of BBJ owners install at least one shower and some owners install more than one. Now Bombardier has raised the bar for smaller long-range jets with the introduction of a new shower design for the Global Express. Rather than positioning the cubicle at the back of the aircraft, creator Bruce Malek has installed the washroom in the middle of the cabin. The thinking is simple. On a 14-hour flight from Dubai to Montreal, for example, customers are likely to want to freshen up in comfort.

Malek says: "There were so many aspects to the design, including the water system, the



A shower on board the ACJ.

ergonomics and how to use it. I understand cabin flow and how the cabin is used during different phases of flight, so the design challenge was to keep it in the middle, so people could stand up."

Bombardier went through four full sized foam mock-ups, as well as an initial 3D drawing to get the space exactly right.

Users enter from the enclosed aft stateroom through a sliding glass door. There is a window in the shower, giving a feeling of open space. Malek added a detachable rug, which matches the stateroom carpet and is removed when the shower is in use. The shower itself includes a new element, which heats the water from three degrees Celsius to 43.5 Celsius (114 Fahrenheit) instantaneously as it is pumped through, meaning there is no need to pre-heat the water, or use a separate water tank. Wastewater is dumped overboard in flight through a master drain. The shower can take up to 75 per cent of the 28 gallons of water on board, which translates into

40 minutes of shower time. In case a customer eats into the remaining 25 per cent of water, which is purely for systems use, the shower shuts down automatically. Should that happen, users press a button to get one extra minute, to rinse out shampoo for example. The first shower will appear on Bombardier's demonstrator in December 2010 and will cost an extra \$960,000 to install, including the aircraft modification.

Pierrejean is also developing a jacuzzi and says that the key challenge with that project is to ensure that there is a big drain to catch water as the aircraft moves.

Industrial designer Edese Doret is also designing a jacuzzi. He says: "It is a complex item that is all enclosed like a shower. We have also added an integrated 32-inch video monitor."

Big new concepts

Doret's jacuzzi is connected to the flight management system so that, when the captain puts the fasten seatbelt sign on during heavy turbulence, the water drains to a tank. Naturally, everything on board has to be certified and big new concepts, such as jacuzzis or steam rooms, take time to develop. Pierrejean has an advantage in that he creates interiors for private and commercial jets, so is working with the same suppliers for both.

In terms of décor, Doret says aircraft customers have moved towards the same feel in an aircraft bathroom as they have at home. He works closely with the Aircabin Company, a US polycarbonate manufacturer. According to senior sales manager Angelina Reyes, there are distinct regional preferences. "In Europe and North America, people like sands and neutrals and robin's egg blue. In the Middle East, people prefer golds and two-tone translucent Mediterranean colours," she says.

Although it is technically possible to recycle water that has been used for showers, research indicates that VIP travellers are just not ready to accept this concept yet, fearing that this would be unhygienic. So many aircraft use two tanks, one for clean water and one for dark.

A shower is almost becoming a standard item, so bathrooms are set to become increasingly luxurious. David Velupillai, Airbus' product marketing director, executive & private aviation says: "Our customers want to take a shower after a long flight, which means they arrive and are ready to go straight away and are not obliged to go to hotel before a meeting."

Marcelle Nethersole reports from the Aircraft Interiors Expo in Hamburg on what was turning the heads for Middle East buyers.

Let smoke get in your aisles...

With a high number of smokers in the Middle East markets, a new product on show at Hamburg could have the airlines attracting smokers once again – although this time not in a harmful way.

“SuperSmoker Blue is an electronic cigarette which can be used everywhere,” says Dimitri Kyriakopoulos CEO of SuperSmoker. “I don’t smoke and dislike being around people that do, both for health reasons and the smell. I came up with this idea, which can help people who want that nicotine hit but not in a harmful way.”

This revolutionary high-tech product of evaporation and computer technology looks like a real cigarette and even ‘smokes’ like one but comes with a battery and charger. “Inside the ‘cigarette’ is a membrane that heats to 120/130°C and filter cartridges, which contain nicotine and natural flavours. It’s not smoke and fire, so when you inhale it is only harmless water vapour which doesn’t smell.”

The SuperSmoker has been medically proven as safe and its filters are subject to ongoing laboratory control.

The SuperSmoker Blue starter pack comes with 24 filter cartridges, zero strength (without nicotine) together with an ultra-compact charger, storage pouch and user manual. Nicotine filters are also available as are lights and menthol. The cost of one SuperSmoker Blue is \$150.



Seats are looking Suite in economy

Thompson Aero Seating’s rejuvenated Cozy Suite for Economy class passengers was a highlight of the show. And it could well be winging its way to the Middle East as the company actively markets it.

Using a staggered configuration the seat also has a patented tilting seat pan that not only helps with passenger egress but also with in-flight comfort according to sales vice president Brian Rogers. “It’s not just a seat, it’s a new business plan for any airline customer,” he says.

And the seat is ready for 2010 production. Rogers explains that the company has already signed up two customers, but remains tight-lipped about who they are.

Presently the seat is configured for the long-haul segment and while it weighs in at around 14kg “we’re working on reducing it to less than 12kg per passenger” says Rogers.

“For example on a 767-400 switching to our seat would give you 14% more seats,” adds Rogers. A standard -400 configuration would offer 182 seats. By using Cozy it can accommodate 208 fare-paying travellers.

The company says that if the revenue per seat is \$500 per day then with 300 flying days per year the Cozy would increase revenue by \$150,000 per seat, per year. Or \$3.9m on its 767 example.

Rockwell Collins dPaves the way for Air Arabia

Rockwell Collins landed an order at Hamburg from the Middle East for almost 50 examples of its dPAVES digital broadcast IFE system.

In the perfect riposte to rival Thales unveiling its new TopSeries Digital Single-Aisle system, the US avionics giant named Air Arabia as its latest customer.

The Sharjah-based low-fare operator wants dPAVES for a total of 49 Airbus A320s. At the core of the system to be installed in the aircraft is the 4MCU Broadcast Digital Server (BDS), offering 160Gb of content storage – enough for several entertainment play periods – and Airshow 3D moving-map.

dPAVES also incorporates the Flyable Data Loader, designed to cut the time and resources needed to add new content. Fifty gigabytes can be loaded within five minutes via a single Blu-Ray disc and then automatically transferred to the server. The server can continue to deliver content to passengers while the loader is working.



Oman’s new seat means business

The new business class seat developed for Oman Air by EADS Sogerma was rolled out at the Aircraft Interiors Expo in Hamburg. The seat will help Oman Air to increase its long-haul services.

“The Class 180 was actually developed ten years ago with Cathay Pacific and is flying on Airbus A330, A340, A380 and Boeing 747 & 777s,” says Marie-Pascale Jouaville, marketing and contracts manager.

“It is a successful product with major airlines such as Gulf Air and Cathay Pacific. Oman Air decided to invest in the Class 180 too, and the luxury seats were customised to the airline’s colours with trim and finish,” says Jouaville.

The seat was manufactured in Rochefort, and will be installed on the Oman Air fleet of new Airbus A330-200/300 aircraft, which are being delivered later this year.

Space launch

Qatar Airways began flights between two of the world’s energy capitals on April 1, with passengers on the Doha-Houston flights experiencing the airline’s newly launched Boeing 777 fully-flat business class seat-cum-bed – one of the latest designs from B/E Aerospace.

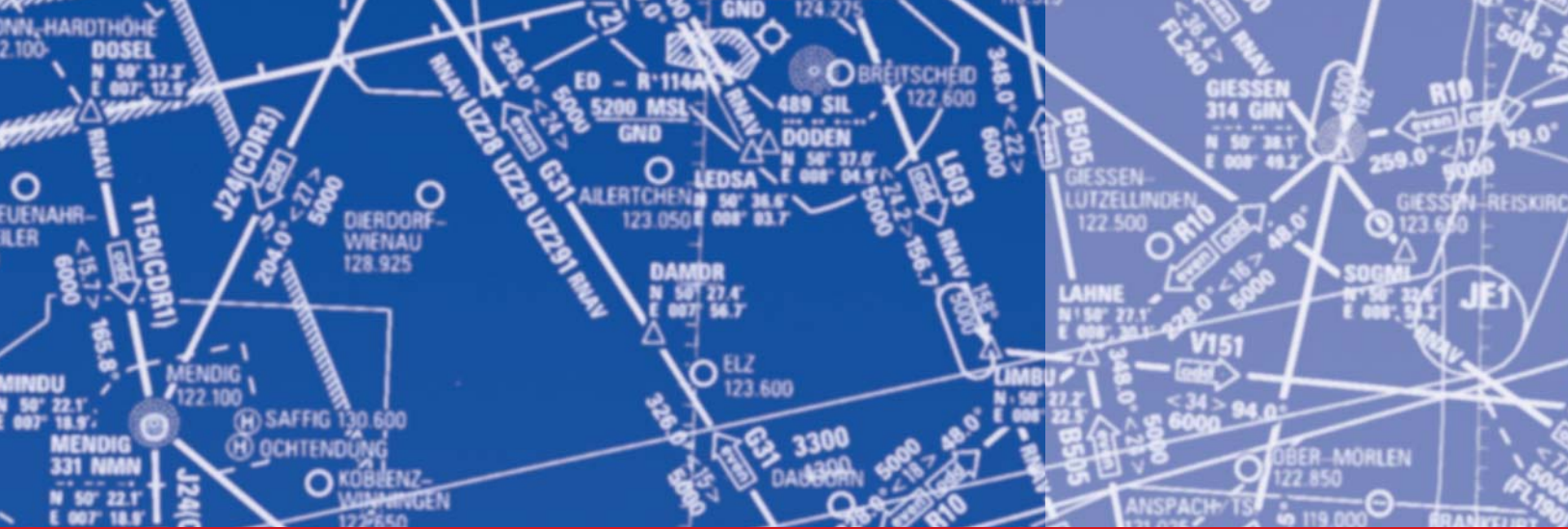
Featuring a pitch of 78 inches, it is easily seen as among the biggest business seats in the air today, offering passengers unprecedented levels of space and comfort. The seats are currently deployed across Qatar Airways’ eight Boeing 777s.

SITting pretty

Royal Jordanian Airlines has signed up for French seat manufacturer Sicma Aero Seat’s Integrated Technology in-flight entertainment system, it was announced at Hamburg.

The system is fully Audio Video On Demand (AVOD) and will be installed on the carrier’s Airbus A340 aircraft.

SIT shifts the system’s processing power from a central server to a powerful in-seat unit with its own processor and storage. Increasing available local processing power and eliminating the need for high-bandwidth connections to a central server is expected to enable new applications, such as 3D games and animated and 3D graphical user interfaces.



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DFS Deutsche Flugsicherung



If there is one area in the world that you would want to be in at the moment, it is the Middle East. There are so many projects underway.

Ana Mandaric

Despite the global financial slowdown, one area of massive investment in infrastructure is still attracting attention. Throughout the Middle East, airports are expanding to meet the increased traffic demands that the region is predicting.

Even with the delays to the massive Dubai World Central project, there is no question that the whole Middle East region's airports are capturing the eyes of the marketing and sales people from the world's airport equipment and services supply chain.

And, during May, many of the world's main players will be at Dubai Airport Expo as participants in Airport Show, for the first time under the management of one of the world's major events organisers – Reed Exhibitions.

Heading the show's operation team is event director Ana Mandaric, who took over responsibility for the annual event when Reed bought it from previous owners, Streamline last year.

"The show has been successful but it was ready to move to the next level," Mandaric says. "Reed took over in September so we haven't had as much time as we would have liked but we have been talking with exhibitors and the key airports to ensure we are working in the right direction.

"Of course, with the current financial slowdown, there is an impact, but if there is one area in the world that you would want to be in at the moment, it is the Middle East. There are so many projects underway and at different stages.

"You also have other projects that do not go to public tender but delegations from those airports come to the show to meet potential new suppliers. There is no doubt people feel they should be here and we are anticipating strong numbers for exhibitors and for visitors."

It is not just the UAE that is benefiting from

New face of the Airport Show

investment in transport infrastructure. Qatar, Saudi Arabia, Kuwait and Egypt all have major ongoing projects.

Reed has been driving a marketing campaign to all of the airports across the region. "Some of the big projects have been postponed, but they will happen. Our feedback is that they will be at the show to look at what's on offer," Mandaric says. "There is still lots of business in this region and this is the time to be seen. These are long-term projects and it is about relationships."

Using its experience with other major events around the world, Reed has stepped up the level of conference for the new-look Airport Show. Confirmed keynote speakers include Paul Griffiths, the CEO of the Dubai Airports, and

CEO of Abu Dhabi Airports Company Rudy Vercelli.

Launched in 2001, Airport Show is recognised as one of the world's largest airport construction, operations, technology and services events. The show is held under the patronage of His Highness Sheikh Ahmed bin Saeed Al Maktoum, president, Department of Civil Aviation Dubai and chairman, Dubai Airports.

Frederic Theux, president of Reed Exhibitions Middle East says: "We are very pleased to add Airport Show to our industry-leading portfolio of aerospace and aviation events, including Asian Aerospace, Air Freight Asia, the Aircraft Interiors series, Aerospace Testing and Helitech.

"Airport Show in Dubai has grown tremendously, mirroring the boom in the region's aviation and related sectors and is today one of the biggest events of its kind. The ongoing large-scale development projects across the region will provide continued business opportunities for manufacturers and service providers in such areas as build and supply, security, ground support equipment, operations, air traffic control, training and revenue management. By introducing Reed's global experience and relationships to the Airport Show's key stakeholders, we believe the show can now move smoothly to its next stage of development, thereby delivering more value to all show participants."

Mandaric adds: "We have listened to past exhibitors and visitors and taken actions to improve both the show and attendees' experience for this year and will continue to do so in future."

The show runs at the Airport Expo Dubai from May 19 to May 21. Industry delegates may register online at www.theairportshow.com.

the airport

Subway, the Fast alternative

A healthy alternative to greasy fast-food is being promoted by the USA's Subway brand at the Airport Show.

With more than 25,000 locations in 83 countries, Subway is the second largest fast-food franchise in the world.

About 5,000 of these locations are non-traditional units – including convenience stores, truck stops, colleges, hospitals, military bases, arena and shopping malls.

The company's goal is to be the largest fast-food franchise in every market – just as it is in the US and Canada – and to have locations in every country in the world.

The brand was founded in 1965 and was the brainchild of a 17-year-old with the aim of funding his college tuition.

A spokesman says: "The show is an opportunity for us to meet with airport administrators and show them how a Subway restaurant is right for their facility."

"The company displays at many trade shows such as this. Since our concept is flexible, with minimal equipment and space requirements, and our brand has a worldwide reputation for offering a healthier alternative to traditionally fatty and greasy fast food, we feel a Subway restaurant would be quite appropriate for many airport venues."

"It's a brand with worldwide recognition, high levels of customer loyalty, low start-up costs and, because all locations are franchised, ownership and operation of each restaurant is local."

In addition to traditional restaurants in urban and suburban settings, with storefront and shopping malls locations, the Subway chain also has more than 7,000 non-traditional locations in places such as hospitals, hotels, office buildings, college and university campuses, convenience stores, park and recreations facilities and casinos.

In fact, the Subway chain has nearly 80 locations in airports worldwide, with a majority of them being in international markets.



Clockaholics!

A trusted time source is essential. In air traffic control, precision timing is mission critical.

Time & Frequency Solutions specialises in the design, manufacture and supply of time, frequency and synchronisation systems for a wide range of global markets and applications.

The company's projects have included air traffic services of the Slovak Republic.

The replacement of the existing time reference system was required to improve the quality of the time reference source to support time synchronisation of the systems for the provision of air navigation services.

Time & Frequency Solutions supplied its M211 Modular Timing System, which benefits from nine module slots as well as a suite of popular outputs, easily accommodating variations at each user's site

and the customer's requirement for high reliability.

The company is due to exhibit alongside its partner company Bayanat, which has a dedicated area at the show.

David Wright, sales and marketing director at Time & Frequency Solutions, says: "Over the last few years, we have been quite successful in the UAE and Dubai. What we are trying to do is consolidate our position there and we see the Airport Show in Dubai really is going to be quite a big event for us."

"This is the first time we have exhibited. We have visited the show a few times. We are really trying to showcase exactly what we are capable of. It is consolidating our position there and trying to get our name known in the air traffic control industry."

show

Bright prospects for ATG Airports

Lighting the path for the airport industry, atg airports is once again planning to promote its latest products at the Airport Show.

Working with a global network of representatives, atg airports manufactures a full range of airfield lighting products including approach, taxiway and runway lighting, clearway airfield guidance signs, a number of different AGL control systems and the Micro range of constant current regulators, while maintaining a complete airfield lighting installation and maintenance service.

The company boasts some of the most advanced and cutting-edge production workshops and training facilities in the world.

As well as providing its range of products from Warrington, UK, it also oversees the management of its other services, including critical airside installation, commissioning, maintenance and spares support.

At the show, atg airports will be promoting its guidance signs. One of its recent projects saw the company carry out work at Sydney International Airport, manufacturing, supplying and installing Clearway Guidance Signs. Before the order was placed, sample signs from various manufacturers were supplied to the airport for testing and performance analysis. Atg's Clearway signs were selected for the project. A combination of the hinge mounted front fascia, improved life expectancy of the fluorescent tubes, and the maintenance support provided by atg, ensured it was the most cost-effective option and Sydney's first choice.

A spokesman says: "atg airports will once again be attending the Airport Show in 2009, returning to the UAE with every intention of capitalising on the increasing reputation of atg airports across the globe. The company will once again be showcasing the latest in airfield lighting technology, including LED-powered luminaires and guidance signs."



PhotoMetrics lighting the way ahead

Heading for the bright lights of The Airport Show again this year is TMS Photometrics.

TMS Photometrics is a global partner in airfield light measurement and management with extensive experience of the measurement of lighting system performance.

It has been involved with airfield lighting since 1991, when the company was commissioned by the UK Civil Aviation Authority to study performance of AGL systems.

The Mobile Airfield Light Monitoring System has been developed to accurately measure the performance of high intensity lighting on airfield runways.

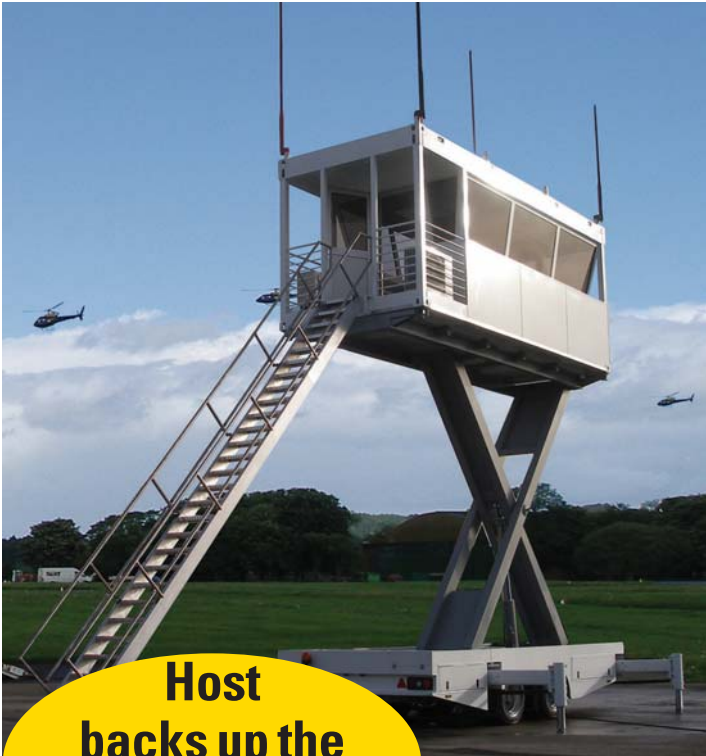
TMS Photometrics offers a complete Aeronautical Ground Lighting (AGL) maintenance solution, which incorporates mobile airfield light monitoring system technology and differential maintenance strategy.

The solution can enable airports to effectively and efficiently maintain their AGL systems and demonstrate compliance to the performance standards now laid down by all the main international regulatory bodies. It also offers help in delivering AGL life cycle cost savings.

Vernon Taylor, managing director, says: "With our UAE partner, Bayanat Airports Engineering & Supplies LLC, we have exhibited our MALMS Photometric Measurement Systems at the Dubai Airport Show for several years. We find it a good place to renew existing relationships, establish new contacts and build on our increasing MALMS customer base in the region and look forward to another successful show this year."

Following investments in advanced mobile and workshop photometric measuring equipment from TMS Photometrics and the adoption of an integrated Aeronautical Ground Lighting maintenance methodology, Manchester Airport has not only been able to bring the performance of its expanded AGL system up to – and exceed – required standards, but the airport is now also in a position to realise real savings in whole-life system costs.

Customers include London Heathrow and Manchester Airports as well as airports at Dubai, Jebel Ali and Abu Dhabi.



Host backs up the tower supply

Host Systems keeps its business in the family and says this helps it offer the flexibility to provide the most appropriate systems.

The company has been established specifically as a dedicated supplier of rapid deployment mobile air traffic control towers and low-cost alternatives to conventionally built towers.

Michael Brunton, CEO of Host Systems, says: "Our quick delivery and low-cost fully mobile air traffic control are well suited as a fully-equipped stand-by capability in the event that the main tower is disrupted, either by terrorism or fire. The Host Mobile ATC Tower is capable of being deployed within an hour by only four people, therefore minimising disruption to airport operations and also the cost of compensating airlines which have to divert.

"Also, we can provide a plug-and-play tower fully equipped to the same standard as a conventional tower, which is a cost-effective alternative with the added benefit of a very quick six month delivery. So for the smaller airport with up to 20 movements an hour, we can offer enormous savings."

Host Systems is exhibiting at the Airport Show in Dubai for the third year in a row.

Brunton says: "Host Systems are pleased to be exhibiting, particularly because we are partaking with our business partners Bayanat on their very prestigious booth in the main hall.

"We have found the exhibition an enormous help to establishing our business base in the UAE through the exposure to decision-makers in the airport sector."



Opportunity knocking on the Jewers door

The Jewers family is opening up the door to the opportunities available through this year's Airport Show.

Jewers Doors designs, manufactures and installs aircraft hangar doors under its Esavian trade name and industrial doors under the Phoenix brand.

From its modest beginnings 25 years ago, Jewers Doors now undertakes contracts throughout the world for governments, armed forces and private companies.

Mark Jewers, Phoenix director, says: "Jewers Doors has been exhibiting at the Airport Show, Dubai, for many years.

"Being the hub for the Middle East trade, this year we particularly look forward to meeting visitors from the region and further afield to discuss projects where our Esavian hangar doors or Phoenix sliding folding doors could be used."

Jewers Doors was recently awarded two contracts for the \$9billion New Doha International Airport – the first airport to be built specifically for the A380 passenger aircraft. The company will design, manufacture and install two sets of its Esavian doors for the Aircraft Maintenance Centre. Each of the two giant hangar bays can accommodate two A380 aircraft and the doors are scheduled to be installed by the end of 2010.

Meanwhile, Ameco Beijing's A380 hangar has been officially opened in a televised ceremony. Working closely with Baotong Door of China, Jewers designed and commissioned an Esavian Type 126 sliding door spanning the width of the hangar.

COPPERCHASE LEADS THE WAY

A leading supplier of services, systems and solutions to the ATC industry throughout the world will be exhibiting at The Airport Show once again.

Copperchase offers a range of services and applications for the ATC industry, solutions which assist with ATC flight data processing requirements and also the equipment required for navigation and safety on the airfield.

Covering more than 30 countries across five continents, Copperchase offers full system design and support for all its installed systems.

National Air Traffic Services (NATS) has selected Copperchase to supply its ATC Data System at Jersey Airport.

As an integral part of ATC Systems renewal project managed by NATS, the ATC Data System from Copperchase will support the ATC function at the

airport and also enable ATC information to be distributed within the airport infrastructure.

Copperchase has also been selected by NATS to supply a replacement ATC Data System at the Isle of Man (Ronaldsway) Airport.

The company does two exhibitions a year; the Dubai show and one in Amsterdam.

Managing director Gerry Moyle said: "We have been going to The Airport Show for about five years. We originally went to show our commitment to that market place.

"We were already doing a small level of business out there. You need to have a presence there to grow the business.

"We carry on exhibiting at the show as we are doing on-going business in that region. We are doing two contracts at the new airport."

... it might be worth asking us

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Queue...action!

Hoping for a queue at its stand at the Airport Show will be Tensator.

Tensator provides queue management solutions suitable for managing crowds in any environment, with an aim to minimise customer waiting times, reduce customer and staff frustrations, increase footfall and productivity.

General manager Abdel Aziz Rahal says: "At Tensator, we work alongside some of the world's leading airlines and airports to provide queue management and security solutions.

"This year, we will be showcasing a number of our best-sellers, alongside some of our latest products for the aviation industry."

Taking centre stage at the Airport Show for Tensator will be the recently-launched Airport Passenger Guidance (APG) system, designed for low-cost airlines to deliver robust and safe solutions that guide

passengers efficiently when boarding and disembarking a plane.

The APG combines a durable, high-visibility finish, steel frame and retractable anti-static webbing to ensure dangerous under-wing areas are kept clear and passenger waiting times are reduced.

The general manager continues: "Our trademark Tensabarrier continues to be recognised as the world's leading retractable belt system and is a permanent fixture in many global queuing environments. Alongside the APG and Tensabarrier, visitors to the Tensator stand will also be able to view our range of airport security gates and eQ call-forward systems, which operate on a first-come, first-served single-line queuing system that provides the fairest way to serve passengers."

Tensator's team will be on hand throughout the show to answer any individual queries, offering advice and details on the company's extensive product portfolio.

NATS the way to cut emissions

A green company is planning to cut 10% of aircraft CO₂ emissions with its new initiative.

NATS is looking to reduce the total emissions by aircraft it controls by an average of 10% per flight by 2020. It is the first company in its sector to create this kind of environmental aim.

Chief executive Paul Barron says: "Safety will always be our first priority but environmental responsibility will become part of our day-to-day work. We are determined to take this big step to leave behind a smaller carbon footprint."

NATS provides air traffic control services to aircraft flying in UK airspace and over the eastern part of the North Atlantic.

It provides air traffic control services at 15 of the UK's biggest airports and en-route air traffic services for aircraft flying through UK airspace.

Haven help for fire and safety

Haven Fire and Safety is a fire protection, engineering, supply and service company offering a one-stop shop for clients' system solutions and equipment needs.

Some of its major aviation projects have covered terminal facilities, fuel farm and hangar protection systems and its related products and services include high and low expansion foam systems, fire monitor systems, wet chemical fire suppression systems for terminal food outlets, CO gas detection for road tunnels and car parking areas, SIL2 networked fire detection and alarm systems, UL/FM fixed and portable firefighting equipment/extinguishers and airfield crash rescue vehicles.

Managing director Gerry Boux says: "We are an established company in the UAE and are actively working on several projects at the new airport and others in the area."

The company's facilities are based throughout the UAE with branches in Abu Dhabi and Dubai industrial areas.

LOOK, SMART

Specialists in high-tech security training, Smart Approach, will be promoting three new products at this year's show.

The company's range of security solutions have been developed using its specialist experience in the aviation industry and its work with the leading manufacturers of security and simulation equipment.

The AVSECO Academy in Hong Kong – named the world's best airport by the Airports Council International in 2005 – uses Smart Approach's SmartSystem in one of the most advanced computer-based training facilities of its kind and provides bi-lingual, interactive courses with X-ray simulation of most conventional X-ray or explosive detection systems.

The BAA Training Centre at Heathrow Airport provides aviation security and management courses, which are accredited to the UK Department for Transport's Security (TRANSEC) standards. BAA has used Smart Approach's CBT training system since 1995 and has recently upgraded its classroom to the latest SmartSystem software.

Mike Ormesher, managing director, says: "We believe the event provides an excellent showcase for high-tech companies like Smart Approach to launch flagship new products."

Smart Approach has exhibited at the show about five times before and this year will be promoting three new products – Reality Theatre, SmartObject and IED Ware.

QinetiQ effect

QinetiQ will be promoting its range of security research, technical advice, technology solutions and services.

QinetiQ, which has extensive expertise in improving the vigilance and performance of security personnel works with airport operators to select and train the right people. It offers training programmes and has developed techniques for increasing vigilance, for example, by superimposing images of weapons on to X-ray images of passengers' bags.

It has also developed technology to improve the ability of screeners to identify threats, including a 3D training tool for enhancing image interpretation and algorithms for processing X-rays.

A spokesman says: "QinetiQ has developed a unique data management and interpretation software tool for threat image projection systems. The system quickly converts TIP data into an easily interpretable form, providing information to airport security managers about system-wide performance as well as data on the performance of individual screeners."

Achim Baumann, *Regional Manager Middle East at the German air navigation service provider (ANSP) DFS, looks at how the air transport industry is affected by the global crisis and how he sees the situation in the Middle East from an outside perspective.*

Why efficiency is now the Big Deal

Worldwide, the air transport industry has been hit hard by the economic downturn. Last year, high oil prices affected the industry and now there is a serious decrease in demand for air transport.

In the Middle East, investments in infrastructure are still at an all-time high with more than \$68 billion set aside for new projects. This begs the question – is efficient behaviour in order to cut costs and save resources not an issue in the countries of the “big deals”?

During the international ATC Global trade show and conference, which took place from March 17 to 19 in Amsterdam, it once again became obvious that efficiency and cost awareness play a decisive role.

The declining numbers in air transport are also present in the Middle East – especially in the cargo sector. As a consequence, many projects have been prolonged or postponed, such as the construction and opening of the Al Maktoum International Airport. Even though monetary resources for investments are still available, industry representatives are using them more cautiously.

The airspace in the Middle East is, to a great extent, fragmented. One way to increase efficiency would be to harmonise the airspace structures and operational concepts. Given the current situation, it is mandatory to include military organisations in such an exercise.

Promising activity

A promising activity related to airspace optimisation started with the CANSO conference in November 2008 in Jeddah, Saudi Arabia. During the last 20 years, the German ANSP proved that airspace optimisation and civil-military integration are most beneficial. DFS enabled the flexible use of airspace in 1994 and, by 2002, completely restructured the German airspace, reducing sectors and noticeably increasing capacity.

The planning reliability of flights in the Middle East could be further enhanced if everybody involved in the turnaround process of a flight received the related information in a reliable and timely manner.

With the implementation of a collaborative decision-making process, such as at Munich or Zurich airport, this planning reliability was achieved.

CDM processes have proven to ensure the distribution of urgently needed information.

This, in turn, reduces delays significantly, supports the efficient planning of airport resources and provides cost benefits for all involved.



“We should see the economic downturn as a chance and use the time wisely to plan ahead to optimally allocate budget and resources.”

Achim Baumann

Equally important is the deliberate use of technical systems.

Is it really necessary to invest in a new tool or system? Or can existing systems with all their abilities and capacities be more efficiently used?

Considering this, it is important to assess the resources available and plan the budgets in the most effective way.

All in all, we should see the economic downturn as a chance and use the time wisely to plan to optimally allocate budget and resources.

This will enable the air traffic management community to be prepared when growth resumes and avoid the “firefighting” method, which ANSPs have often applied before an economic downturn.

Show goes on despite World Central delay

The delay to the completion of the infrastructure around the new Dubai World Central complex came as a shock to many in the industry.

For Fairs & Exhibitions, the Dubai-based arm of events company Tarsus Group, it could have been a disaster.

F&E is the organiser of the Dubai Air Show, already the third largest of its kind in the world, and ever since the new airport in the sands of Jebel Ali was announced eight years ago, the air show was widely anticipated to host the launch event this year.

In November 2007, at the last Dubai Airshow, F&E chairman Virginia Kern told exhibitors that the old show site was at capacity and to meet the growth demands for the show and the region, the new permanent home would come just in time.

Then, in January, the bombshell hit and the delay was confirmed.

For show organiser, F&E director of aerospace Alison Weller, there was a philosophical response. "It happens. Everybody is aware of the issues that are going on in the world at the moment. Of course we are disappointed but we would be more disappointed to move on to the site and it not be right for a world-class show.

"There has been amazing support from Dubai, with its typical can-do attitude. His Highness Sheikh Ahmed (Sheikh Ahmed bin Saeed al Maktoum, the head of the Dubai Civil Aviation Authority (DCA) and chairman of the Emirates Group) has helped us ensure that we can meet all the demands for the event at the Airport Expo."

Weller says exhibition managers in the companies have been "marvellous" in the way they have been pragmatic about the change. "We haven't lost exhibitors, we have been able to work out chalet spaces and we are working with DCA to find the additional space we need."



Alison Weller: "There has been amazing support from Dubai."

The show, which takes place on November 15 – 19, is nearly full, with many companies bucking the economic trend and looking to the Middle East for signs of a region that still has growth.

"You can see with the investments that Mubudala and others are making that the Gulf, in particular, has a strong growth strategy," says Weller. "If you look further afield you can see the additional investment in Jordan and Lebanon and we also know that we get a lot of interest at Dubai from the Indian sub-continent, given the centuries of close trading."

The show has already been given a thumbs-up by the world's major defence companies.

With Middle East states expected to invest approximately \$60 billion in defence this year,

Eurofighter, BAE Systems, Lockheed Martin, Northrop Grumman and MBDA lead a contingent of more than 300 defence providers already signed up for the show.

The sector's major players will no doubt be eyeing the region's largest and richest state, Saudi Arabia, which is forecasted to spend \$39 billion in 2009, rising to \$45 billion a year by 2013. The United Arab Emirates is expected to be the second largest GCC defence contributor, with \$9 billion this year.

"Despite falling oil prices and a harsher economic climate, the Middle East continues to be a strong area of opportunity for defence producers," says Weller.

One of Dubai Airshow's key sales drivers is its pioneering military delegations programme. Devised by the UAE Defence Ministry and the UAE Air Force, the programme has facilitated unprecedented business between suppliers and customers in previous years.

By targeting defence ministers, air force commanders and chiefs of staff, the programme attracted 82 delegations representing 48 countries in 2007, with F&E Aerospace believing more can be expected this year.

"The response to date for this initiative has been extremely encouraging and I am confident that this year we will see the largest delegation presence in the show's history," says Weller.

In 2007, Dubai Airshow entered the record books when more than \$155 billion worth of deals were announced during the show's five days – the highest ever for any global aviation event.

The show's growth carried over to the exhibitors and attendees figures too, with more than 850 exhibitors from 50 countries participating – 130 of these being new to the region. Over 45,420 visitors attended over the five days – 10,000 more than in 2005.

"All the signs are that we will continue to enjoy a successful event this year," Weller says. "The remaining space is tight and without the opportunity to move it is essential that those companies that wish to participate contact us as soon as possible."

AIME and MRO Middle East to run in tandem

Fairs & Exhibitions continues to introduce new events for the growing aerospace industry and, in 2010, will be co-locating two of its latest launches to give visitors and exhibitors added value.

The Aircraft Interiors Middle East show (AIME) and MRO Middle East, organised in conjunction with Aviation Week, will take place from February 28 – March 1 at Airport Expo.

"Both events were tremendously successful last year and we believe they will benefit from being run simultaneously," says F&E's aerospace director Alison Weller. "The Airport Expo enables us to do that very well."

Both events will include a conference with top-level speakers and regional workshop sessions.

"As the aerospace industry in the region matures, events like this make all the difference," Weller says.

The company is also organising Aerospace & Defence and Training Show (ADTS) at Airport Expo from March 3-4 2010.

"ADTS will feature parallel conferences; one focusing on civil and the other on defence. Breakout workshops will provide the opportunity to focus on key areas of training, simulation and recruitment," Weller says.

The show will also feature a dedicated exhibition, where training and simulation companies, along with recruitment companies, training facilities and manufacturers can present solutions to airlines, air forces, students, HR companies and universities.

1000

YEARS OF THE PARIS AIRSHOW

Visitors to the world's major air shows are accustomed to seeing military and civil aerospace hardware in exhibition halls and on outside displays, all alongside hospitality chalets in which business can be negotiated or contracts finalised. Much less familiar is the sight of a customer taking such space, but Arab carrier Qatar Airways is becoming an established Paris air show chalet holder – its chief executive holding court, usually with a brand-new jetliner parked by the back door and often next door to a major manufacturer. The airline has chosen the world's biggest aerospace event to promote itself in the increasingly competitive Gulf market against established carrier Emirates and relative start-up Etihad.

REPORT IAN GOOLD

The Paris Air Show – the world's longest-established aerospace exhibition that is more properly rendered the Salon de l'Aéronautique et de l'Espace – is celebrating its centenary in 2009, having for long been the pre-eminent aerospace industry exhibition. The event has taken place at the city's former main airport at Le Bourget for almost 60 years. Huge areas of permanent hard-standing accommodate literally hundreds of aircraft, while other fixed infrastructure houses hundreds of aerospace manufacturers.

The very first air show in Paris – dubbed an Exhibition of Aerial Locomotion – took place at the Grand Palais near the Champs-Élysées, which was to be the venue for each show until 1949 (being held during November or December). In fact, the origin of the event can be traced back one more year to 1908, when an aircraft exhibition was held as part of the second Paris Automobile Show at the Grand-Palais.

Unlikely though it might sound, air shows have not always featured demonstration flights. The related flying displays at Paris did not begin until 1949, taking place that year at Orly Airport before moving to Le Bourget in 1951. Since 1953, the show has taken place in June and over the 100 years exhibitor numbers have grown from some 380 pioneers to more than 2,000.

That first official show took place on September 25th, 1909, having been organised by Messieurs André Granet and Robert Esnault-Pelterie. It attracted 380 exhibitors showing

products having to do with aeroplanes, balloons, and engines.

There were four further shows up to 1913. After a six-year break because of the First World War, the exhibition resumed in 1919, continuing each year until 1924 – at which point the frequency was changed to every two years.

By that time, the event was being taken seriously and had begun to attract exhibitors from elsewhere in Europe, especially from Germany and Great Britain.

Although the show still took place in central Paris, the city's airport at Le Bourget came to world attention in 1927 when American pilot Charles Lindbergh landed there after making the first solo non-stop flight across the Atlantic Ocean.

The Second World War brought another break, with no exhibition between 1938 and 1946. The resumption of the show quickly saw the introduction of the first aerial demonstrations as manufacturers showed off their aircraft at Orly

airport during the 1949 show. This spelled the beginning of the end for the Grand-Palais as the venue, and Le Bourget was adopted as the sight of the Paris Air Show from 1953 onwards.

By this time Paris was becoming established as the world event, since it was open to overseas participants while other major shows such as that at Farnborough in England were limited to UK exhibitors. For many years it was the international venue of choice for the Soviet aerospace industry,

2000

The number of international exhibiting companies from nearly 50 countries



Paris 1908: an aircraft exhibition was held as part of the 2nd Paris Automobile Show at the Grand-Palais.

which first took part in 1957.

The story of the Paris Air Show during the past 50 years has been very much that of the global industry, with all major developments being reflected. These very often have been marked by superlatives – first, biggest, fastest, heaviest – and very often by significant or record-breaking flights.

For example, in 1967 a pair of Sikorsky HH-3E helicopters were the first rotorcraft to fly non-stop across the Atlantic.

Two years later, as 14 countries took part in the air show, there were two iconic new jetliners to draw the crowds – the Anglo-French Concorde supersonic transport (SST) and the mighty Boeing 747, representing two very different modes of air travel.

Two years later, exhibitors attended from a further three nations, and the debutantes included France's Dassault Mirage, a full-scale mock-up of the Airbus A300, the world's first twin-aisle twinjet.

The real A300 did turn up in 1973, as did competing Douglas DC-10 and Lockheed L1011 TriStar widebodies alongside a bunch of French Aerospatiale helicopters. But the show was marred by the loss of the Tupolev Tu-144, Russia's entry in the SST stakes. The accident killed the crew as well as people on the ground.

With Le Bourget's place in history already

200,000

The number of public visitors
During the week of the show
Le Bourget becomes the world's
busiest restaurant with more
than 200,000 meals supplied.

established, the former principal Paris airport became home to France's Musée de l'Air in 1975.

By the end of the decade, more than 25 nations were taking part in the show, while the international space race was illustrated by the presence of the Ariane launch vehicle and, in 1983, the US Space Shuttle (carried aloft on a

modified Boeing 747).

The Airbus A320, Europe's 150-seat airliner designed to compete against the Boeing 737, appeared in 1987, which also saw the arrival of China as an exhibitor.

At the next show, the Soviet Union provided extensive displays both on the ground and in the air, including appearances by the six-engined Antonov An-225 (the world's largest aircraft), Mil Mi-28, MiG-29 and the Sukhoi Su-25 and Su-27. The An-225 carried the Buran Soviet space shuttle.

While the 1991 event included a sideshow highlighting aircraft that had taken part in that year's Gulf war, two years later saw an impressive long-distance flight by an Airbus A340, which left Le Bourget for a round-the-world flight via New Zealand.

By the middle of the last decade, the number of participating nations had exceeded 40 and more than 200 aircraft, including the first unmanned aerial vehicles (UAVs), were displayed at the 1999 salon, which saw almost 1,900 exhibitors and nearly 200,000m² of static display space.

GIFAS seeks extra space as sell-out show beats recession

The 48th edition of the Paris Air Show is expected to be a sell out – despite the recession.

Show director Gilles Fournier says that the show is already 100% full and organiser GIFAS is looking at how get additional space for late-booking exhibitors.

While many of the large OEMs have reduced their presence, often by combining subsidiary companies into a single pavilion or booth, there has been a remarkable increase in the number of small and medium-sized enterprises signing up.

"I don't think the two things are related," says Fournier, "But I think we are seeing the requirements of a supply chain coming together."

Show organisers are developing a number of B2B meetings between procurement people and the SMEs. "We tried it in 2007 and it was very successful. It is enhanced this year," Fournier says.

GIFAS has invested more than \$10m on show improvements since 2007, including car parks and access. For exhibitors and visitors staying for the weekend there will be plenty to see with historic aircraft dating back to 1909 participating in the display. The organisers have even laid a 400 metre grass runway to accommodate some of the older aircraft. During the trade days they expect to see aircraft such as the F-22, F/A-18 and one of the new Russian fighter variants displaying for the first time.

The show is on June 15-21. There is a daily VIP helicopter shuttle between central Paris and the show (contact www.ixair.com) and shuttle buses from the Le Bourget RER station.

140

The number of
aircraft on
display



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Show business:
Bahrain's Mohammed Mehdi
with Philippa Ewart and
Amanda Stainer.



Show set to put Bahrain on the aerospace map

Farnborough International works to tap into the potential of the island state.

The Bahrain Air Show in January 2010 could change the way that the industry views marketing events, according to the show organisers Farnborough International (FI). Already responsible for the world's second largest air show – the biennial Farnborough show – FI won the contract to work with the Bahraini government to develop an aviation event that would put Bahrain on the map and draw attention to the island state's aerospace credibility.

"We believe that aerospace will be an important industry for Bahrain," says Mohammed Mehdi, director marketing & promotion for Bahrain's Civil Aviation Affairs. "We have the second biggest aluminium smelting plant in the world, which is important for the aerospace industry; we have the will to diversify our industries and we are very close to Saudi Arabia with links around the region and internationally. There is still a lot of the market here that is untapped. Bahrain offers a lot to companies wanting to work here and help develop the industry."

The air show is the vision of the king, His Majesty Sheikh Hamad bin Isa Al Khalifa. "We have been working on the concept with His Majesty since 2004," says Amanda Stainer, FI's exhibition and events director. "The result is an event that is very different from the traditional air shows. There will always be a place for the major international shows like Paris, Dubai and Farnborough but this is different. It gives companies the chance to entertain VIP customers and talk seriously to them."

According to show director Philippa Ewart, the hospitality at the event, which takes place January from 21-23, will be limited to just 40 chalets located alongside the king's private 2400-metre runway at Sakhir Airbase. The king will have his own pavilion with a number of official delegations and high-powered VIP guests at the centre of the chalet line.

During the mornings, companies will have the opportunity to arrange demonstration flights – while the

afternoon will feature an impressive air display. "We have had a lot of interest from people who want to participate in the display," says Ewart, "It should be spectacular."

FI is using its experience of running flying displays for the past 60 years to ensure the event works. Although the Bahraini public will get to see the display, it will be from a completely separate part of the airfield. "The only people to be anywhere near the hospitality area will be those personally invited by the government or by the participating companies," Ewart says.

The Bahrain Civil Aviation Authority is also paving the way for UAVs to be flown at the event. "Because Al Sakhir is far enough away from the international airport there is no conflict. We see this as a great opportunity for manufacturers to demonstrate these air vehicles to their customers," says Mehdi.

The Bahrain show, located alongside the island's Formula One Grand Prix track, will not have an exhibition or trade element. "What is also different is that we do everything for the participants," says Stainer.

The 160m² chalets come completely fitted out for the VIP experience. There are dining facilities for 50 people, a bar area and a viewing space; participants get 120 passes for guests over the three days, parking spaces and even a chauffeured limousine for their company leadership. The \$155,000 all-in price also includes an area on the static in front of the chalets where participants can display their aircraft. They will also receive two invites every day for a place at the Royal Pavilion.

"We have a supported buyer programme and are helping our participants get in front of the people that really matter," Stainer says. "This style of event could revolutionise the way that companies look at shows. We are very excited and there is a commitment to continue with the event going forward."

Palm targets Geneva growth

Palm Aviation and Hadid are among the many Arab companies that will be making their way to Geneva in Switzerland on May 12-14 to participate at the annual EBACE convention – the European business aviation show.

Mohammed Saideh, executive vice president of Palm Aviation, says the show is one of the most important in the calendar.

“As the business in the Middle East grows, so our relationships with companies outside of the region becomes more important. We have built our business by understanding exactly what is needed to succeed in this part of the world. We are able to work with other companies to support them here too.”

EBACE exhibition brings together business leaders, government officials, manufacturers, corporate aviation department personnel and all manner of people involved in nearly all aspects of business aviation. New business aircraft firms, avionics firms, handling organisations, fractional providers, charter/lease companies and previously titled aircraft resellers display their wares.

The impressive exhibition takes place at the sprawling and state-of-the-art Geneva PALEXPO, which covers more than 100,000 square meters distributed in seven halls. It is strategically located within 10 minutes of the centre of



Geneva and is immediately adjacent to Geneva International Airport.

There will be 300 exhibiting companies from around the world attending this year with more than 60 aircraft – including nearly every major business aircraft design in current production – on display in a special 18,000-square-metre static display area.

COMAC key player at Hong Kong

The Asian Aerospace Show is again co-locating with Aircraft Interiors Expo Asia and the Air Freight Asia exhibition when it takes place in Hong Kong from September 8-10 this year.

China remains a key region to target for new business and the Gulf carriers and cargo handlers will be at the show in force.

The recent supply chain landscape in China and Asia changed dramatically after COMAC, the long-awaited manufacturer of airframes, was formed in May 2008 by AVIC.

Sales director Richard Thiele says: “This show will meet the needs of those organisations in the Middle East that are extending business and trade with China. The Chinese market is important to the Gulf and we are seeing a lot of interest.”

More details on www.asianaerospace.com

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With an average global figure of just 3% commercial female pilots, there is still a long way to go before women achieve equality.

Liz Moscrop, co author of *'The 100 Greatest Women in Aviation'* reports on some of this region's pioneers.

Etihad's female cadets live the dream

What makes a good pilot? Flying skills? Calmness under pressure? Two young Etihad cadets are displaying both qualities as they conduct their training under the media spotlight. UAE-based Aisha Al Mansoori and Salma Al Balooshi are the airline's first two female pilots. Both are displaying the determination and tenacity that it takes to succeed. Aisha says: "I was happy and proud. I had to go through several exams to test my abilities." Salma agrees: "I am just stunned to be living my dream."

The pair are about to graduate and move to Abu Dhabi to complete their ATPLs. Salma pays tribute to her family and says: "My father suggested I apply when he saw an advert in the paper for Etihad."

Aisha's sister is also the first female fighter pilot in the UAE Air Force.

Saudi Arabia's Hanadi Zakariya Hindi is also the product of a close-knit large family in Mecca. Her father encouraged her to get her private pilot's licence. She went to neighbouring Jordan to train at the Middle East Academy for Commercial Aviation in 2002. She glosses over the challenges she faced being the only woman at the school, but says: "Everywhere you go, you have to work much harder than the men. That gave me the push I need to do it."

Hanadi received an invitation from Saudi's Kingdom Holding Company, owned by the philanthropic reformist HRH Prince Alwaleed bin Talal bin Abdulaziz Al Saud.

She made headlines worldwide in 2004 when, aged 26, she was hired by the prince to fly for his firm.

"Everywhere you go, you have to work much harder than the men. That gives me the push I need to do it."

Hanadi Zakariya Hindi



High flyers: Salma Al Balooshi and Aisha Al Mansoori.

She says: "It was the greatest opportunity I ever had."

Prince Alwaleed told the Times: "Recruiting captain Hindi...is a major step in the employment of women and their more active participation in Saudi society." He later added: "I will continue to support Hanadi and her family in any way I can. I fulfilled her wish because it was within the banner of Islam. My message to any Saudi woman who wishes to become a pilot is to come forward and she will be supported by me."

Africa, too, has its fair share of history makers. Police helicopter pilot Refilwe Ledwaba and student Kajuju Laiboni have set up Women Aviators in Africa to support women wishing to enter the aviation industry. They met on Facebook and the pair have been working together since, meeting in person for the first time at the recent WIA conference in Atlanta.

Kajuju says: "I joined WIA and felt motivated to start a similar organisation in my continent. I realised how many women could be interested in aviation, but lacked any guidance." With the support of her family, she organised a successful dinner in Nairobi, including three speakers from different sectors. She adds: "We also sponsored a young girl from the Kibera slums who dreams of being a flight engineer."

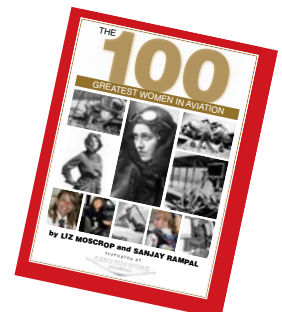
There are promising signs that things are changing for women in Africa. Asnath Mahapa was the first female African beneficiary of the South African Airways (SAA) level two training programme and is now flying the Canadair Dash 8 - 300 for South African Express (SAX). Her boss at SAX is Siza Mzimela, one of the few women to head up a world airline.

Another celebrated young female pilot is major Catherine Labuschagne, who hurtled into history as the first woman to fly the Gripen 59-B fighter jet. She joined the South African Air force (SAAF) in May 1998 and six years later became the first female pilot in the world to fly in the Swedish built Gripen 39B fighter jet.

Her colleague, second lieutenant Phetogo Molawa, is the first African woman to fly for the SAAF. An Oryx pilot, she says: "It is excellent fun; I don't think there is anything better."

There are currently seven female pilots in the Pakistan Air Force and in 2006 Saira Amin made history by becoming the first woman to be awarded the Sword of Honour for best all-round performance in any of the country's defence academies.

■ **Liz Moscrop's book *100 Greatest Women in Aviation* is available to Arabian Aerospace readers for \$30 inc. p&p. Go to www.aerocomm.aero**



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Maroun switches to Vistajet

European private aviation company, Vistajet has appointed Dr Elias Maroun as executive vice president sales and marketing, Middle East.

The Austrian-headquartered company says it expects the Middle East to be one of its fastest growth markets and has appointed Maroun to spearhead the company's commercial growth in the region.

Before joining VistaJet, Maroun was group director, private aircraft for NetJets in the Middle East. He has a proven marketing and sales track record in the aviation and automotive industries as well as a background in luxury brands.

VistaJet says the time is right to be further strengthening the Middle East market and is aiming at market growth of 10% in the next three years.

All Star line-up for Jazeera

"The strength of our airline lies not in our aircraft or commercial assets but in the people who help run it," says Marwan Boodai, chairman of Kuwaiti airline, Jazeera Airways, who described a number of recent new additions as "All Stars".

The appointments include: Andrew Cowen as chief executive; Steven Greenway, chief commercial officer; John Turnipseed, vice president, human resources; Reinhard Kossack, chief operating officer; Bara Pasupathi, chief financial officer; Abdullah Al Hudaid, vice president engineering & maintenance; Ali Fairouz, vice president ground operations; Bader Al Mershed, vice president



GAMMELL TAKES KEY ETIHAD ROLE

Etihad Airways has appointed Ray Gammell chief people and performance officer and Jim Callaghan as general counsel and executive vice president legal.

Gammell will oversee the airline's expanding human resources department while Callaghan will be responsible for its legal departments.

James Hogan the airline's chief executive says: "Ray and Jim both have proven track records in their respective fields of expertise which will be crucial to the company's development and I look forward to welcoming them to Etihad."

"Ray will play a key role in recruiting the best people to the airline as well as retaining and developing those who have helped us to grow at such an impressive rate."

"Jim has specialised in the aviation industry for the past nine years and he will bring a wealth of experience to our multinational negotiations."

Gammell joins Etihad from the Royal Bank of Scotland (RBS), where he was director of human resources, Europe and the Middle East regional markets.

industry affairs; Falah Al Shimmery, vice president operations; and Michael Hayden, vice president strategy & planning.

"The team brings together a wealth of experience spanning 150 years with various airlines around the world," says Boodai, who will continue to oversee the airline's operations as chairman.

Cowen, formerly chief executive of Sama Airlines in Saudi Arabia who also held senior roles at Go Airlines and British Airways in the UK, will manage day-to-day running of the airline.

Greenway was formerly chief commercial officer of SkyEurope Airlines and senior manager at Virgin Blue in Australia and Virgin Atlantic in the UK, while Turnipseed formerly held the role of vice president HR at Eos Airlines and Southwest Airlines, both in the USA.

Soliman set for UAE cargo role

Etihad Crystal Cargo has appointed Albert Soliman as the airline's new regional cargo sales manager for the Middle East and Africa.

Based at Etihad's home-base in Abu Dhabi,

Soliman will be responsible for commercial cargo activity in the UAE and across the region.

Soliman brings 16 years of experience in freight forwarding and aviation transport.

Before joining Etihad he worked for RAK Global Logistics as deputy general manager as well as with Expeditors, Australian Air Express and Jets Transport.

Jet Professionals appoint Farag

Jet Aviation's global staffing company, Jet Professionals, has appointed Hani Farag as

managing director for its non-US activities.

The appointment follows the decision to expand the company's staffing services to the Europe, Middle East & Asia regions.

Farag adds this to his responsibilities as Jet Aviation vice president human resources EMEA & Asia.

From its Switzerland-based EMEA headquarters, Jet Professionals offers crew services including full-time placement and contract pilots, flight attendants and other flight department personnel, as well as staffing solutions for maintenance and completions positions.

Farag says: "We plan to concentrate the company's staffing offerings in Europe and the Middle East regions until the end of 2010 and then to expand our services into the Asia and India markets as well. Our goal is to develop lasting and trusting relationships with our clients in order to assist them in achieving their business objectives."

Bel Jaflah for Emirates UAE

Emirates has announced the appointment of Khalid bel Jaflah as vice president commercial for UAE to further develop the company's operations in the country.

"Khalid has been an integral employee of Emirates for eight years and this dedication and commitment is reflected in his appointment to vice president," says Adnan Kazim, Emirates' senior vice president commercial operations, Gulf, Middle East and Iran.

"Khalid has consistently shown his ability to reach and exceed set targets and is a valuable asset to Emirates."

PAULINE SMITH

What is it like running an FBO in one of the world's most demanding markets? Phil Nasskau talks to Pauline Smith, ExecuJet's Dubai manager to find out.

“The good thing about aviation is that no day is the same. You have to be prepared for last-minute changes and have back up plans ready to go.”

1 ■ What made you move to the Middle East to work in aviation?

After spending 14 years working for Harrods Aviation at London Stansted Airport I decided that I was ready to move out of the UK.

I had heard so much about Dubai and how the region was expanding so I decided to look into aviation positions in the region. A contact I had in the area told me about the vacancy as ExecuJet FBO manager; I applied and here I am today!

I have been here for four months now and, although it is very different from what I am used to, I am really enjoying the nature of the job and have started to settle into all other aspects of my life here.

2 ■ What's it like running the FBO given the current global economic crisis?

It is, of course, more challenging with the current economic difficulties.

As usual we are concentrating on our current customers but we have also spent a lot more time creating new business.

There are many competitors out there so we have to prove that our customer service standards are the best in the region. There is certainly more pressure on us all at the moment and this is making the job more challenging, but it keeps it interesting and I am still really enjoying it.

Customers from the Middle East do expect a very high level of service and can be more demanding, so we really have to make sure that we are always offering them the best service possible to avoid any disappointment.

3 ■ Do you have a typical day?

The good thing about aviation is that no day is the same. You have to be prepared for last-minute changes and have back-up plans ready to go.

When I begin work in the morning I start by looking at our movement sheets to identify any new customers, as well as double-checking for our cash and account customers.

We make sure our staff are fully briefed and I meet with the airport regarding parking or any other issues. It's a great environment at the FBO; we have nine staff of different nationalities so it's a great culture mix and when we get good feedback from passengers and crews it makes you realise all the hard work and effort is worthwhile.



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